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The Atlantic Monthly

JANUARY 2001

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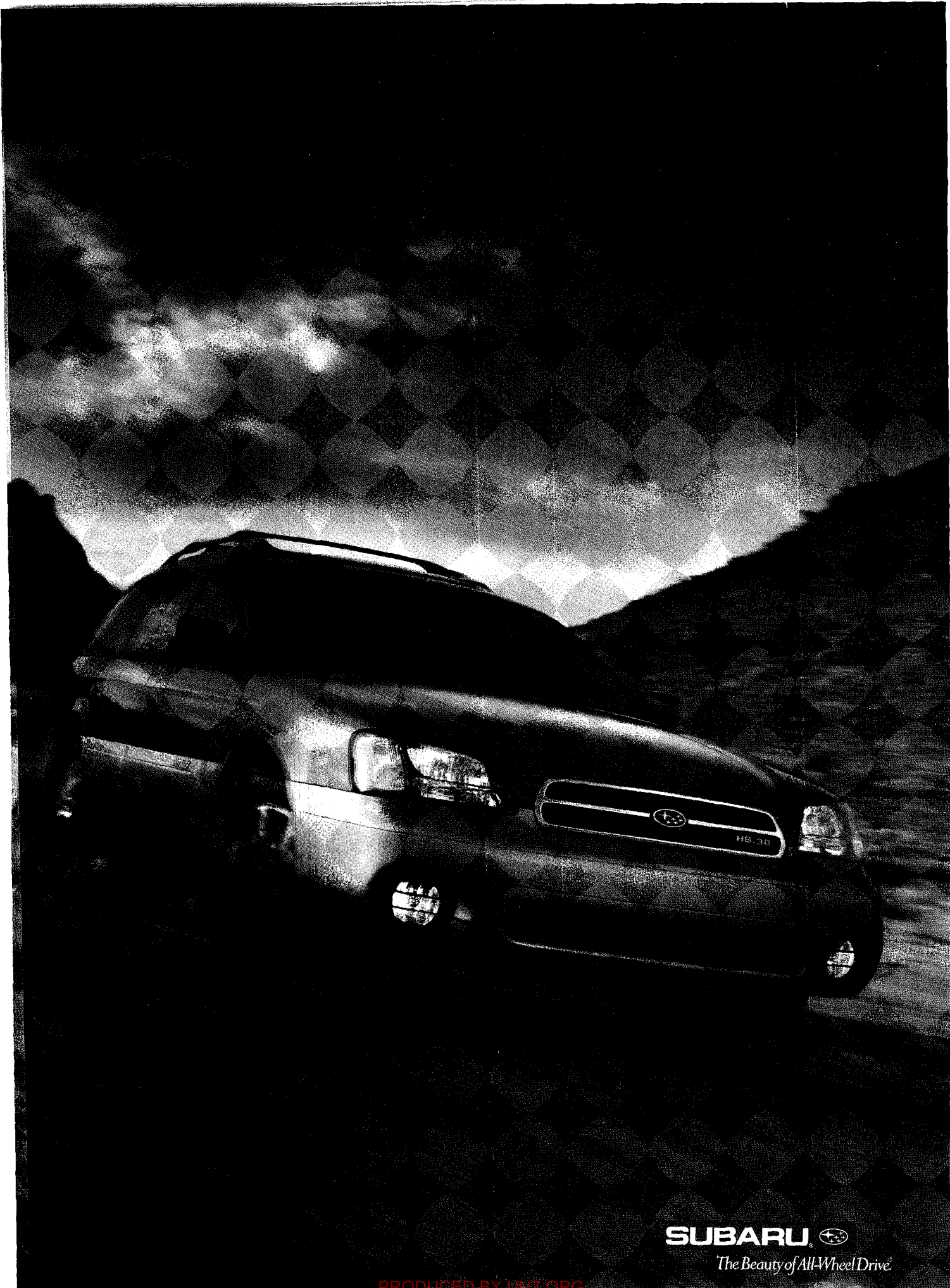
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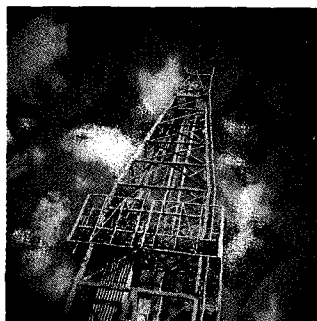




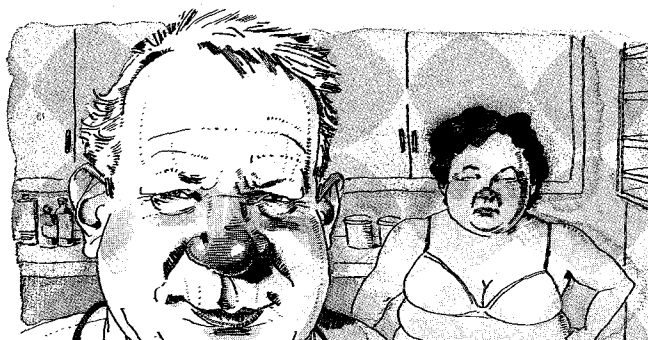
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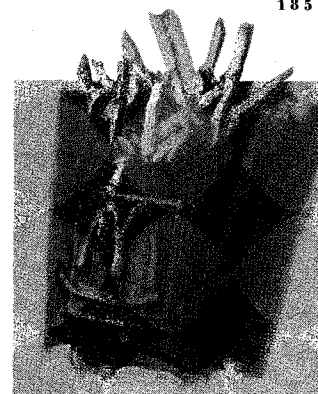
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OVER the past five years readers of *The Atlantic Monthly* have grown familiar with the work of Benjamin Schwarz. He has written articles and reviews for the magazine on a range of subjects: World War I, the history of the American South, Thomas Jefferson, U.S. foreign policy. Schwarz's article "The Diversity Myth," which argued that Americans underestimate the intractable nature of ethnic strife around the world because we ignore or misunderstand our own brutal history, was *The Atlantic's* cover story in May of 1995. With his wife, Christina, a novelist, Schwarz has also written about Chinese restaurants in Los Angeles, traveling in the Big Bend region of Texas, and what the advent of casino money and a casino culture has done to life in and around Tunica, Mississippi.

A few months ago Schwarz accepted an invitation to join the magazine's staff as a senior editor, moving to Boston from his home near Los Angeles. One of his tasks will be to expand the portion of the magazine devoted to criticism of various kinds, especially about books; an expanded books section will be evident next month. "*The Atlantic's* books section can strike a perfect balance," Schwarz says. "It doesn't have the same pressing need as a newspaper's weekly book review or a daily Web site to survey the literary scene comprehensively, but at the same time its discussions are going to be fresher than those in a quar-

terly, which too often are engaged in debates already tabled."

Perhaps not surprisingly, given the range of his interests, Ben Schwarz has pursued a remarkably varied career. He holds a B.A. (1985) and an M.A. (1989) in history from Yale, and was a Fulbright scholar at Oxford. He has been a foreign-policy analyst at The Brookings Institution and at the Rand Corporation, and was the executive editor of *World Policy Journal*, where his chief mission was to bolster the coverage of cultural issues, international economics, and military affairs. He is alert to a spectrum of political and philosophical views—he writes for both the liberal *Nation* and the conservative *The National Interest*, and for many other publications. He won the 1999 National Book Critics Circle award for excellence in book criticism.

"*The Atlantic's* books section has long treated history more fully and seriously than any other general-interest magazine's, and we'll continue to do so," Schwarz says. "But we plan to devote the same care and attention to fiction and literary biography. And we'll also be giving readers thoughtful, clever, sometimes barbed, culturally oriented criticism that speculates on the social causes and contexts of literary phenomena—focusing on what George Orwell, the master of such criticism, called 'the external conditions that make certain writers popular at certain times.'" —THE EDITORS

CONTRIBUTORS

Charlotte Allen ("The Scholars and the Goddess") is the senior editor of *Crisis* magazine and is a contributing writer for *Lingua Franca*. She is the author of *The Human Christ: The Search for the Historical Jesus* (1998).

Kate Bolick ("My Mother's Dresses") is studying cultural reporting and criticism in the Department of Journalism at New York University. She was formerly a new-media editor of *The Atlantic*.

Carl Thor Dahlman (At Last Count), a Ph.D. candidate in geography at the University of Kentucky, is currently researching the international politics of Kurdish refugee migration.

Francis Davis ("I Hear America Scatting") is a contributing editor of *The Atlantic*. He is at work on a biography of John Coltrane and a history of jazz.

Peter Davison ("Province of the Past") is *The Atlantic's* poetry editor. His most recent collection of poetry, *Breathing Room*, was published in September.

Greg Delanty ("The Bindi Mirror") teaches at St. Michael's College, in Vermont, and is the author of *The Hellbox* (1998). His poem in this issue will appear in his forthcoming book, *The Blind Stitch*.

James Fallows ("Reading by Ear") is *The Atlantic's* national correspondent.

Trudy Lewis ("A Diller, a Daughter") is an associate professor in the creative-writing program at the University of Missouri at Columbia. She is the author of *Private Correspondences* (1994).

Gregory Manchess (cover art) is an artist and illustrator whose work has appeared in *National Geographic*, *Smithsonian*, and *Newsweek*.

W. S. Merwin ("In the Open") is the author of more than fifteen books of poetry and nearly twenty translations, including Dante's *Purgatorio* (2000). A new book of his poems, *The Pupil*, will be published in October.

Charles R. Morris ("The Worst Thing About My Church") is the author of several books, including *American Catholic* (1997) and *Money, Greed, and Risk* (1999).

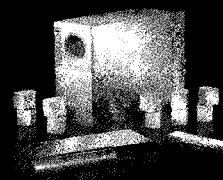
Jonathan Rauch ("The New Old Economy") is a senior writer and columnist for *National Journal* and a writer-in-residence at The Brookings Institution. His most recent book is *Government's End: Why Washington Stopped Working* (1999).

Sally Satel ("The Indoctrinologists Are Coming") is a psychiatrist at a drug-treatment clinic in Washington, D.C., and a lecturer at the Yale University School of Medicine. Her article in this issue is adapted from her book *P.C., M.D.: How Political Correctness Is Corrupting Medicine*, to be published this month.

Eric Schlosser ("Why McDonald's Fries Taste So Good") is a correspondent for *The Atlantic*. His article in this issue is adapted from his first book, *Fast Food Nation*, to be published this month by Houghton Mifflin.

Jeffrey Tayler ("Flushing Out the Shlaki") is the author of *Siberian Dawn* (1999) and *Facing the Congo* (2000). Two of his articles for *The Atlantic* have been included in Houghton Mifflin's *Best American Travel Writing* (2000).

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LETTERS

Evangelical Minds

Alan Wolfe's article "The Opening of the Evangelical Mind" (October *Atlantic*) makes a case for the academic excellence of a handful of "evangelical" universities—principally Wheaton, Baylor, and Fuller. But the story that follows the title does not establish the true opening of the evangelical mind—or even, in my view, the current excellence of those few colleges.

To begin with, the "evangelical mind" is not fairly represented by the carefully selected handful of colleges and theologians that form Wolfe's database. An article so titled should also have examined Jerry Falwell, Pat Robertson, Oral Roberts, Jimmy Swaggart, and other TV and TV-wannabe evangelists, whose minds are anything but open and whose message is the opposite of reflective. It should have sampled the scores of other evangelical colleges, which also substitute charismatic dogma for reflection, and the nationwide home-schooling movement, much (though not all) of which is devoted to propagating creation science while insulating youths from insidious Darwinism and "secular humanism." Not much opening there.

Second, Wolfe seems to draw rosier conclusions about intellectual life at Wheaton and Fuller and so forth than his own (admirably balanced) reporting would warrant. For example, after noting the high test scores of the students these institutions attract, Wolfe observes that these schools strictly police the external boundaries of allowable belief—requiring oaths of faith in biblical inerrancy—while graciously indulging all manner of woolliness within those boundaries. This, if true, is the opposite of what higher education is about. As a university professor, I feel it is my job to force (politely) my students to question assumptions and to reason rigorously and logically, and then to encourage them to follow the logic of the argument where it leads. If the first of these essential pedagogical activities doesn't happen at Fuller and the second one can't, I can only wonder in what sense the school can be said to

have achieved academic excellence. Surely test scores are not the only criterion.

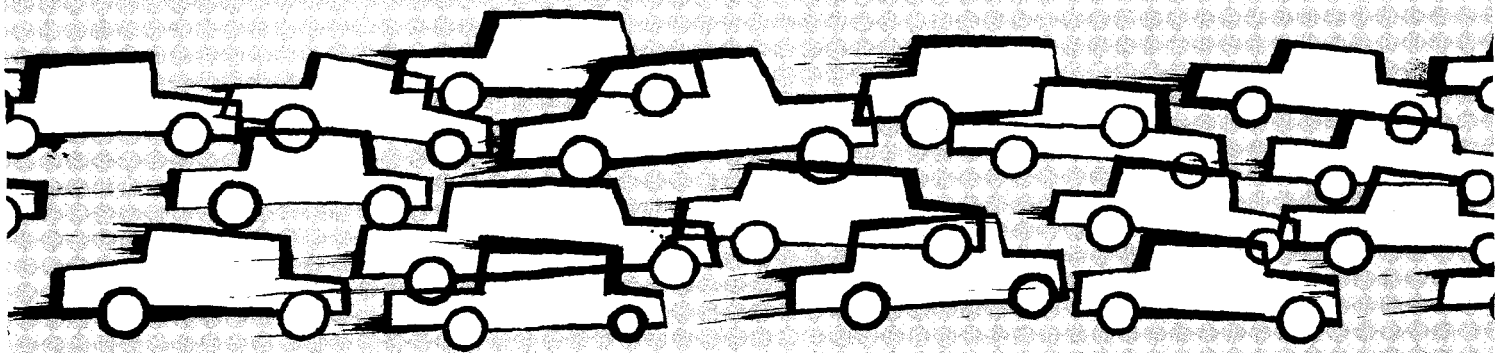
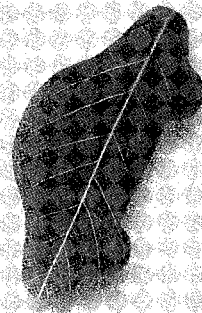
Herein lies the problem that Wolfe fails to appraise fully: Evangelicalism essentially defines itself against open-mindedness in matters spiritual. It was formed in reaction to the ecumenical trend in traditional Protestant denominations toward more-inclusive interpretations of the Scriptures. It also was established in reaction to Catholicism, which is why evangelical churches regularly send missionaries to Latin America, where their mission is to "convert" Catholics. To anyone who has grown up immersed in evangelical doctrine (as I have), one fact is clear: the mainstream of the evangelical movement is extremely unlikely ever to accept even the possible validity of Catholicism or Darwinism, or metaphorical interpretations of the Scriptures, or the spirit of skepticism that underlies modern science, postmodern philosophy, and secular academia. To do so would undermine the *raison d'être* of the movement.

Evangelicals can be quite open-minded on matters outside their faith and on hair-splitting differences within their faith—say, pre- versus post-millennialism, or varying techniques of baptism. But on significant matters touching their creed—drinking, dancing, creation, abortion, ecumenicalism, Catholicism, human sexuality—the "opening of the evangelical mind" is basically an oxymoron. What Wolfe reports having witnessed at Wheaton (to his surprise, though not to mine) was students expressing a spirit of tolerance for unbelievers in secular affairs. He does not report having witnessed any rigorous, open-ended grappling with the merits of any of the key issues listed above—even though the Bible is silent or at best ambiguous on every one of them save, perhaps, creation. Evangelicals consider these issues beyond discussion among believers, not because the Bible is clear but because on such matters their minds remain—proudly and officially—closed.

Richard W. Parker

Visiting Professor
Georgetown University Law Center
Washington, D.C.

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In his mostly kind essay "The Opening of the Evangelical Mind," Alan Wolfe makes the astonishingly inaccurate claim that when, in the 1980s, Jaroslav Pelikan left Valparaiso University and four of us left Calvin College, what we "left behind were a disproportionate number of mediocre faculty members . . . and students not generally known for their intellectual depth." In fact Pelikan left Valparaiso in the 1940s, and that school had by the 1980s built its admirable academic reputation without him. As for Calvin, Wolfe's characterization is the opposite of the truth. Even after four of us were gone, Calvin had scores of faculty members who could hold their own with anyone in their fields, and many students known for their intellectual depth. Those few of us who left were the products of a much larger and unusually vibrant intellectual community.

George Marsden
Granger, Ind.

I was disappointed by Alan Wolfe's distorted analysis of academic freedom in today's religious colleges and universities. Wolfe is troubled that professors have to sign doctrinal statements to be faculty members at religious colleges. He forgets that the schools are private institutions created to represent a unique set of beliefs and practices. If the school administrators fail to keep their professors accountable for their beliefs, then the school will eventually lose any unifying religious philosophy.

The true test of contemporary evangelical scholarship will be its ability to examine social issues without losing a distinctive religious perspective. Evangelicals need to cultivate a dynamic civic responsibility in their literature and to develop a public language that demonstrates a real concern for the common good of all Americans.

Brent Muirhead
Alpharetta, Ga.

It is commendable that Wheaton College has students with high SAT scores and a large number of National Merit Scholars, and exciting to hear that lively discussion is taking place in its classrooms. Alan Wolfe's comparison of Wheaton to the University of Chicago must be tempered by a look at the college's mission statement: "Wheaton College exists to help build the church and improve society worldwide by promoting the development of whole and effective Christians through excellence in programs of Christian higher education." To obtain

tenure, a faculty member must write a thirty-page paper demonstrating his or her Christian perspective, and conversion to another religion means that one would "be asked if [one] would not be more comfortable working elsewhere." Considering Wheaton's policies, the best that can be said is that it's more open-minded and intellectually stimulating than most Bible schools.

Bynum Henson
Brookville, Ind.

Saving Salmon

In "Saving Salmon, or Seattle?" (October *Atlantic*), James Fallows concludes that advocates of bypassing four large federal dams on the lower Snake River in eastern Washington are driven not by a desire to save salmon but by a disdain for dams and a desire to restore natural landscapes. He argues that we should reveal our true motive, instead of using the pretext of salmon recovery. The argument is unconvincing, for several reasons.

Recovering Snake River salmon and restoring a free-flowing lower Snake River are inextricably linked. True, many dam-bypass proponents, myself included, would prefer a dam-free lower Snake River, because we value the natural rivers and their landscapes, but that does not mean we are not primarily or equally motivated by a desire to recover Snake River salmon. Indeed, healthy salmon runs were once part of our natural landscape. They sustained thousands of jobs, and the salmon's bodies provided vital nutrients to young salmon and other flora and fauna. The absence of healthy runs costs jobs, impoverishes the river's ecology, and is inconsistent with the desire of many northwesterners to have healthy, productive rivers and the benefits they provide. Fallows's attempt to separate these interwoven motivations and ascribe only one to advocates of dam bypass reveals a lack of understanding about their fundamental interrelationship.

Rob Masonis
American Rivers
Seattle, Wash.

James Fallows badly mistakes the motivation of salmon advocates in the Northwest and is confused about important facts. He mistakenly calls the growing campaign to remove four large dams on the lower Snake River part of an "anti-dam movement." Salmon advocates have called for

the removal of ten to fifteen or more than 200 large dams in the Northwest. Where dams are the primary or dominant threat to salmon, removal is a valid—and often the least expensive—salmon-recovery measure. In other cases, such as on Washington's Skagit River, changes in dam operations can ensure both healthy salmon and hydropower. In still other cases dams are not part of the problem.

Northwest fishers and conservationists support removing four dams on the lower Snake because of overwhelming scientific evidence that Snake River salmon will go extinct with these four dams in place. The Oregon and Idaho chapters of the American Fisheries Society, along with the state fishery agencies of Alaska, Oregon, and Idaho, have called for removing these dams. Fallows implies that we chose these four rather than others by a calculation that we could succeed in removing them. No—we chose them because Snake River salmon are doomed with them in place.

We agree that factors other than dams deserve case-by-case attention. The salmon harvest must be well regulated to minimize the impact on wild salmon, and salmon-hatchery practices need significant changes whose specifics vary widely. If all the hours devoted by salmon advocates were totted up, the majority would probably be found to have gone to harvest and hatchery issues. Those hours are less visible than the campaign against the Snake River dams, because they are spent on many small cases: specific hatcheries, fisheries, and regulations.

For Snake River salmon, our focus on the dams is well placed. According to the Oregon Department of Fish and Wildlife, fishing is responsible for about eight percent of human-caused mortality on wild Snake River fall chinook salmon, whereas dams are responsible for more than 80 percent. General fishing for Snake River wild spring and summer chinook salmon was closed in 1977 and 1964, respectively, yet these populations may be extinct by 2017.

Pat Ford

*Save Our Wild Salmon Coalition
Boise, Idaho*

Although his article was insightful in many ways, James Fallows unfortunately accepts the tired conventional wisdom that “the surest route to ‘paving the river with salmon,’ in a favored regional phrase, would be to maximize hatchery operations.” This was the operational policy of

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regional fisheries agencies for many years, and it has failed miserably. Our rivers are not paved with salmon, yet we have built more than 300 salmon hatcheries in the Pacific Northwest. Exactly how many hatcheries does Fallows think we need to pave the river with salmon? If hatcheries were the solution, we would not have a problem!

Ray Hilborn
Seattle, Wash.

James Fallows's article includes a factual error. He refers to "Grand Coulee, on the upper Columbia, which totally blocks upstream salmon passage"—implying that salmon can get to the Grand Coulee dam. In fact the dam directly downstream from Grand Coulee is the first one the salmon cannot pass. Chief Joseph Dam does not have a fish ladder, so no salmon can get past it into Rufus Woods Lake, which is downstream from Grand Coulee.

Fred Frost
Columbia Falls, Mont.

James Fallows replies:

The letter from Rob Masonis illustrates the outlook my article was trying to describe. The main theme of the article was that while claiming to pursue one paramount objective, "saving salmon," many groups in the Northwest are pursuing several objectives at once, with inevitable conflicts among the goals. If preserving salmon really were paramount, then getting rid of dams would not pass any triage test as the first, most urgent step to take. It's slow, it's expensive, it's essentially irreversible, it has its own environmental side effects. The fastest, least expensive (in terms of damages to pay), most completely reversible step would be to reduce the most destructive forms of "harvest," from ocean fishing to gill-netting. If the fish really were paramount, there would be talk about shooting away the new colonies of terns near the mouth of the Columbia; questions would be asked about the possibility of conflict between the steady growth in population of sea lions, which feed heavily on salmon, and survival of the fish stocks; and note would be taken that this year's salmon runs, with no change in the dams, have been the strongest in many years, and careful study would be undertaken to determine what circumstances made this so. Mr. Masonis suggests not maximizing salmon protection but optimizing the outcome with respect to a number of objectives. That's fine, but it's different from "saving the fish."

Pat Ford's letter expresses a balanced, multi-factor outlook that is different from the general "dams are all that matter" tone of discussions usual in the Northwest. His assertion of "overwhelming scientific evidence" against the four Snake River dams is, however, a familiar part of the discourse. My experience is that the evidence is far shakier and more ambiguous than he suggests. (*The Atlantic's* Web site has extensive links to salmon studies.) To me this indicates the value of taking the fastest, cheapest, most easily reversible steps first, while intensively studying dams and other factors that affect the salmon's survival.

I mentioned hatcheries not to suggest that they are a panacea but to illustrate the sometimes contradictory objectives pursued in the name of "saving salmon." If salmon were considered the way catfish are, as an aquatic meat for harvest, then to maximize meat output one would collect as many eggs as possible and send them to hatcheries, where many more will hatch than will in the wild. Salmon hatcheries were opened on the West Coast more than a century ago as a way of offsetting fishing pressure, and they have been successful at the narrow goal of producing more fish to be caught. If we wanted to "pave the river with salmon," as Ray Hilborn mentions, all it would take is to stop catching them. What hatcheries have not done is protect wild-breeding salmon. Indeed, they have done the reverse—mainly because the higher harvest levels they justify lead to catches of wild and hatchery fish alike.

Fred Frost is correct that Chief Joseph Dam is downstream of Grand Coulee, and would stop the salmon whether or not Grand Coulee existed. The reason I stressed Grand Coulee is that it was built first. Since it had no fish ladders or other passage facilities, it made the crucial difference in keeping salmon out of the vast upstream reaches of the Columbia. The construction of Chief Joseph affected only the fifty miles between it and Grand Coulee.

Advice & Consent

Jon Cohen's article "The Hunt for the Origin of AIDS" (October *Atlantic*) provided background concerning the accusation by the British journalist Edward Hooper that an oral polio vaccine (OPV) used in Africa in the late 1950s was contaminated with HIV (the virus that causes AIDS) and was the original source of HIV in human

beings. The Royal Society held a meeting on this topic just as *The Atlantic* went to press, and many of the outstanding issues have now been resolved.

Chimpanzees carry a virus related to HIV, and Hooper has argued that chimpanzee kidneys were used in the preparation of the OPV in question. However, documentary and testimonial evidence from those directly involved in OPV production forty years ago shows that the vaccine was made in standard macaque kidney cells, not in chimpanzee cells. Actual tests of retained polio vaccine have confirmed that macaque, not chimpanzee, cells were used for the OPV. Furthermore, OPV samples revealed no traces of AIDS-related viruses. Hooper has also suggested that there was a correspondence between early AIDS cases and polio-vaccination sites, but this was shown to be illusory and epidemiologically unsound.

By calculating the rate of evolution of the virus, three laboratories consistently estimated the time of origin of the ancestral virus of the global epidemic to be in the first half of the twentieth century, with the best estimates near 1930—several decades before the OPV trials. The only way these estimates could be reconciled with the OPV hypothesis would be if the ancestral virus resided and evolved in a chimpanzee host, and multiple variants were passed from chimpanzees to human beings through the OPV. Analysis presented in London, however, indicated that the epidemic strains of HIV-1 were descendants of a founder virus in a human host. Additional modeling suggested that HIV-1 may have spread very slowly during the first phase of its expansion, which could explain how it apparently went undetected for some decades.

A general picture is emerging, through modeling HIV evolution, that doesn't fit the OPV hypothesis, although the precise events leading to the epidemic remain unknown. The full discussion at the Royal Society meeting in London made it clear that the polio-vaccine theory of the origin of HIV is highly implausible, owing to lack of supporting data and abundant contradictory evidence.

Stanley A. Plotkin, M.D.
Doylestown, Pa.

Editors' Note

The contents page for the December *Atlantic* should have designated that issue Volume 286, No. 6. We regret the error.

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THE JANUARY ALMANAC



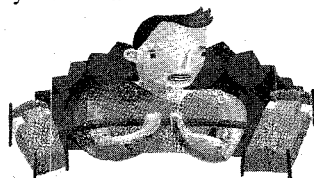
Demographics

The busy season for alcohol-abuse counselors and treatment centers begins this month, according to The National Association of Addiction Treatment Providers. A number of factors contribute to the spike. Many who enter programs voluntarily prefer to wait until after the holidays or are acting on New Year's resolutions. Holiday gatherings can reveal troubling behavior, leading relatives to arrange for the treatment of a family member. And drunk-driving arrests, which often result in court-ordered treatment, peak around the holidays. One group that has not added much to counselors' workloads is the elderly, among whom alcoholism appears to go largely untreated, though it is relatively common: a quarter of those aged 60 or older who are hospitalized for other reasons are found to suffer from the disease. Many communities have begun training postal workers, bank tellers, and others who deal with the elderly on a regular basis to recognize signs of alcohol abuse and contact authorized social workers.

Government

January 1: Today California inaugurates the country's most comprehensive college financial-aid program, one that is being touted as the greatest education-assistance plan since the 1944 G.I. Bill. Its Cal Grants—an expansion of a program established in 1956—will recognize both merit and need. For example, a high school senior with at least a B average from a family

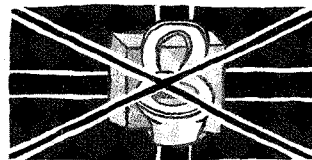
of four whose annual income is \$64,000 or less will qualify for full tuition at state universities or \$9,700 toward tuition at a private college in-state. It is estimated that the plan will cost California more than \$1 billion a year and will result in awards of some sort to nearly a third of all graduating high school seniors. Also today Suffolk County, New York, becomes the first county in the nation to ban drivers from using hand-held cellular phones except to call 911 (headsets and speakerphones are still permitted). A small number of municipalities around the country have already adopted similar safety measures.



Q & A

Is it true that male athletes should refrain from sexual intercourse prior to a game, to avoid losing their edge?

The advice on this subject long given by coaches and trainers may have been a mistake. According to recent findings by researchers at the University of L'Aquila, in Italy, athletes playing sports in which it is best to be highly aggressive—football, soccer, basketball—may perform better if they have sex before they play. The reason is that *intercourse boosts testosterone* levels, and high levels in turn boost aggression. One caveat: pre-game sex can diminish the performance of athletes in a few sports—for example, golf—that don't call for physical aggression, because high testosterone levels can impair one's ability to focus. Some corroborating anecdotal evidence for the overall findings: the late basketball player Wilt Chamberlain, who still holds the record for the most points scored in a game, claimed in 1991 to have had sex with some 20,000 women in his life—on average, he wrote, "1.2 women a day, every day since I was 15 years old."



Environment

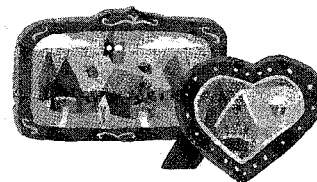
This month may mark the beginning of the end of a British institution: the ubiquitous siphon toilet, developed in the 1890s by Thomas Crapper. On **January 1**, as part of broad water-conservation measures, Britain will lift its ban on the so-called Euro-loo—a valve toilet popular on the Continent, which uses 6.0 liters (1.6 gallons) per flush, as compared with the siphon toilet's current 7.5 (2.0 gallons)—and will require that new toilets use no more than 6.0 liters per flush. Valve toilets of any sort have been illegal in Britain since the late nineteenth century, precisely for reasons of water conservation: a bit of sand in a valve can cause uncontrolled flushes and leaking, whereas the mechanism in a siphon toilet is not subject to leaks. Critics claim that the valve toilets may, over the long term, leak more water than they save.

The Skies

January 3–4: The Quadrantid meteor shower peaks tonight. It should be visible by about 1:30 A.M. **5–6:** The Moon passes below Jupiter and Saturn and above the red star Aldebaran tonight, with the constellation Orion beneath them all. **9:** Full Moon, also known this month as the Wolf Moon, the Winter Moon, and the Yule Moon. **15:** Tonight and for the next few nights observers out before moonrise can spot the constellation Pegasus high in the southwest. It looks like a baseball diamond, with a "catcher" and two "umpires" just behind the home-plate star, the northwest point of the diamond.

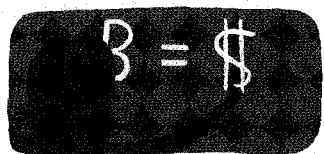
Arts & Letters

January 28: "Modern Art and America: Alfred Stieglitz and His New York Galleries" opens today at the National Gallery of Art, in Washington, D.C. Stieglitz, who ran three art galleries from 1905 to 1946, was the first American to exhibit works by Matisse, Cézanne, and Picasso. He is credited with leading the United States into the world of twentieth-century art. He was also a passionate advocate for the notion that photography is art. The exhibit opening today is the first ever to explore Stieglitz's role in the development of modern art in America. It will include more than 190 paintings, sculptures, and photographs, and will run through April.



75 Years Ago

E. M. Forster, writing on the English character in the January, 1926, issue of *The Atlantic Monthly*: "Many men look back on their school days as the happiest of their lives. They remember with regret that golden time when life, though hard, was not yet complex; when they all worked together and played together and thought together, so far as they thought at all; when they were taught that school is the world in miniature, and believed that no one can love his country who does not love his school. . . . They quote the remark that 'the battle of Waterloo was won on the playing-fields of Eton.' It is nothing to them that the remark is inapplicable historically and was never made by the Duke of Wellington, and that the Duke of Wellington was an Irishman. They go on quoting it because it expresses their sentiments; they feel that if the Duke of Wellington didn't make it he ought to have, and if he wasn't an Englishman he ought to have been."



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Reading by Ear

Heard a good book lately?

I FEEL as if I've spent most waking hours since the age of six reading, so I was alarmed by a discovery I made last year. While scanning stations on the car radio I came across a dramatic reading of part of a novel. As it happened, it was *Independence Day*, by Richard Ford, which I had already read, so I hit SCAN again, thinking, *I know how this turns out*. But I didn't find anything preferable and so came back to it, at which point I was surprised. The story was better than I remembered. Or, rather, it was different. Characters I hadn't really noticed turned out to have full speaking parts. The story's descriptions were more vivid—I could envision the households and street scenes in a way I hadn't before. When the reading was over, I had the sense of having heard a whole new tale, even though an hour earlier I'd been sure I knew the book.

Maybe this showed only that I am losing my mind and my memory, but I hope there was more to it than that. Since then I've thought about the two main routes into the brain—the eye and the ear—and have begun to suspect that I've misplaced my loyalties all these years.

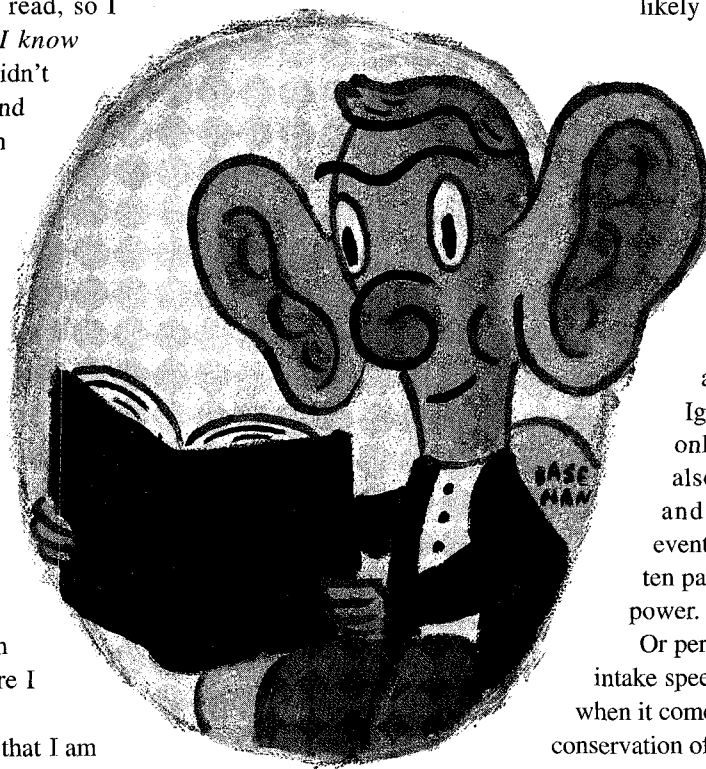
Like most other members of high-tech society, I have esteemed the eye and thought of the ear as a slow-speed analog backup. Let Homer and Chaucer have their oral traditions—I had a 300-page book to get through before bedtime. Who cared whether or not I could understand what a gabbling Parisian was saying, as long as I could read his newspapers? Even the

parts of the reading experience that involved anything other than the eye seemed retrograde.

What I've begun to suspect is not that the ear is superior to the eye but that each has its drawbacks. You can take things in much faster with the eye, but they seem more likely to stay if they come by ear.

Perhaps this is because aural signals seem to connect more-varied stimuli to more regions of the brain than the sight of print does. After all, a three-second passage from any familiar piece of music—The Beach Boys' "I Get Around," "It's a Small World," "Gaudeamus Igitur"—instantly calls up not only the rest of the music but also, often, the sights, smells, and emotions of associated events. It's hard to think of a written paragraph with the same broad power.

Or perhaps the difference is simply intake speed. I have begun to think that when it comes to reading, there's a law of conservation of memory: an hour's worth of attention will lead to an hour's worth of retained ideas and images, whether they come from one chapter read aloud or four chapters seen on the page and recalled, on average, a fourth as well. This is, at least, my hypothesis after spending the past year listening to recorded books whenever I was driving—a campaign for which the Richard Ford experience was the impetus. I've rented quite a few from Books on Tape; I've bought several, from Rinker Buck's picaresque *Flight of Passage* to Vladimir Nabokov's (no adjective necessary) *Lolita*; and I've downloaded recorded novels and biographies from online sites for playback on Walkman-style digital au-



by James Fallows

Illustration by Gary Baseman

dio players with headsets. Many of the books I've heard were ones I thought I already knew, but the vividness of the earborne re-introduction made me doubt whether I had read them at all.

• • •

These findings might seem discouraging for someone who makes his living writing for the page and the computer screen. But I have tried to look on the bright side. There is nothing like the eye for quickly taking in data—the name of the freeway off-ramp, the list of incoming e-mail. Maybe most of what's printed in newspapers and magazines should be considered in the same way—as having done its job if it provides information for people to act on rather than to retain.

One of the big discoveries of recorded-book immersion is how exceptionally memorable a true performance is. Anything that comes through the ear has a chance of sticking, but some combinations of voice and word are so effective that, like music, they are practically impossible to forget. Maybe Philip Roth wasn't thinking of the actor Ron Silver's voice when he wrote *American Pastoral*, but the match is so perfect that it's as if he were. As soon as I am reminded of Silver's performance, I can reel off episodes featuring the book's central figure, Swede Levov—the dialogue is as easy to remember as the lyrics of a song. Anyone who has read *Lolita* knows that Vladimir Nabokov was one smart writer. Anyone who has heard Jeremy Irons's reading of the book—incalculably more powerful than the controversial movie version in which Irons starred, since there is nothing to distract from the nuance of his voice—will feel more forcefully than is possible through the eye alone that each of Nabokov's exotic, improbably chosen words was the inevitable one.

With these examples, I try to inspire and improve the voice in my head. Less droning like a tedious politician. More verve and edge, like an Irons without the Brit-ness. If there's a voice in your head sounding out these words to you, I hope it's sonorous and evocative. Maybe Jack Nicholson. Let it not be Elmer Fudd. ♣

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The Scholars and the Goddess

Historically speaking, the “ancient” rituals of the Goddess movement are almost certainly bunk

WICCA, sometimes known as the Goddess movement, Goddess spirituality, or the Craft, appears to be the fastest-growing religion in America. Thirty years ago only a handful of Wiccans existed. One scholar has estimated that there are now more than 200,000 adherents of Wicca and related “neopagan” faiths in the United States, the country where neopaganism, like many

formal religions, is most flourishing. Wiccans—who may also call themselves Witches (the capital W is meant to distance them from the word’s negative connotations, because Wiccans neither worship Satan nor practice the sort of malicious magic traditionally associated with witches) or just plain pagans (often with a capital P)—tend to be white, middle-class, highly educated, and politically

involved in liberal and environmental causes. About a third of them are men. Wiccan services have been held on at least fifteen U.S. military bases and ships.

Many come to Wicca after reading *The Spiral Dance: A Rebirth of the Ancient Religion of the Great Goddess* (1979), a best-selling introduction to Wiccan teachings and rituals written by Starhawk (née Miriam Simos), a Witch (the term she prefers) from California. Starhawk offers a vivid summary of the history of the faith, explaining that witchcraft is “perhaps the oldest religion extant in the West” and that it began “more than thirty-five thousand years ago,” during the last Ice Age. The religion’s earliest adherents worshipped two deities, one of each sex: “the Mother Goddess, the birthgiver, who brings into existence all life,” and the “Horned God,” a male hunter who died and was resurrected each year. Male shamans “dressed in skins and horns in identification with the God and the herds,” but priestesses “presided naked, embodying the fertility of the Goddess.” All over prehistoric Europe people made images of the Goddess, sometimes showing her giving birth to the “Divine Child—her consort, son, and seed.” They knew her as a “triple Goddess”—practitioners today usually refer to her as maiden, mother, crone—but fundamentally they saw her as one deity. Each year these prehistoric worshippers celebrated the seasonal cycles, which led to the “eight feasts of the Wheel”: the solstices, the equinoxes, and four festivals—Imbolc (February 2, now coinciding with the Christian feast of Candlemas), Beltane (May Day), Lammas or Lughnasad (in early August), and Samhain (our Halloween).

This nature-attuned, woman-respecting, peaceful, and egalitarian culture prevailed in what is now Western Europe for thousands of years, Starhawk wrote, until Indo-European invaders swept across the region, introducing warrior gods, weapons designed for killing human beings, and patriarchal civilization. Then came Christianity, which eventually insinuated itself among Europe’s ruling elite. Still, the “Old Religion” lived, often in the guise of Christian practices.

Starting in the fourteenth century, Starhawk argued, religious and secular authorities began a 400-year campaign to

by Charlotte Allen

eradicate the Old Religion by exterminating suspected adherents, whom they accused of being in league with the devil. Most of the persecuted were women, generally those outside the social norm—not only the elderly and mentally ill but also midwives, herbal healers, and natural leaders, those women whose independent ways were seen as a threat. During “the Burning Times,” Starhawk wrote, some nine million were executed. The Old Religion went more deeply underground, its traditions passed down secretly in families and among trusted friends, until it resurfaced in the twentieth century. Like their ancient forebears, Wiccans revere the Goddess, practice shamanistic magic of a harmless variety, and celebrate the eight feasts, or sabbats, sometimes in the nude.

Subject to slight variations, this story is the basis of many hugely popular Goddess handbooks. It also informs the writings of numerous secular feminists—Gloria Steinem, Marilyn French, Barbara Ehrenreich, Deirdre English—to whom the ascendancy of “the patriarchy” or the systematic terrorization of strong, independent women by means of witchcraft trials are historical givens. Moreover, elements of the story suffuse a broad swath of the intellectual and literary fabric of the past hundred years, from James Frazer’s *The Golden Bough* and Robert Graves’s *The White Goddess* to the novels of D. H. Lawrence, from the writings of William Butler Yeats and T. S. Eliot to Jungian psychology and the widely viewed 1988 public-television series *The Power of Myth*.

In all probability, not a single element of the Wiccan story is true. The evidence is overwhelming that Wicca is a distinctly new religion, a 1950s concoction influenced by such things as Masonic ritual and a late-nineteenth-century fascination with the esoteric and the occult, and that various assumptions informing the Wiccan view of history are deeply flawed. Furthermore, scholars generally agree that there is no indication, either archaeological or in the written record, that any ancient people ever worshipped a single, archetypal goddess—a conclusion that strikes at the heart of Wiccan belief.

IN the past few years two well-respected scholars have independently advanced essentially the same theory about Wicca’s founding. In 1998 Philip G. Davis, a professor of religion at the University of Prince Edward Island, published *Goddess Un-*

masked: The Rise of Neopagan Feminist Spirituality, which argued that Wicca was the creation of an English civil servant and amateur anthropologist named Gerald B. Gardner (1884–1964). Davis wrote that the origins of the Goddess movement lay in an interest among the German and French Romantics—mostly men—in natural forces, especially those linked with women. Gardner admired the Romantics and belonged to a Rosicrucian society called the Fellowship of Crotona—a group that was influenced by several late-nineteenth-century occultist groups, which in turn were influenced by Freemasonry. In the 1950s Gardner introduced a religion he called (and spelled) Wica. Although Gardner claimed to have learned Wiccan lore from a centuries-old coven of witches who also belonged to the Fellowship of Crotona, Davis wrote that no one had been able to locate the coven and that Gardner had invented the rites he trumpeted, borrowing from rituals created early in the twentieth century by the notorious British occultist Aleister Crowley, among others. Wiccans today, by their own admission, have freely adapted and embellished Gardner’s rites.

In 1999 Ronald Hutton, a well-known historian of pagan British religion who teaches at the University of Bristol, published *The Triumph of the Moon*. Hutton had conducted detailed research into the known pagan practices of prehistory, had read Gardner’s unpublished manuscripts, and had interviewed many of Gardner’s surviving contemporaries. Hutton, like Davis, could find no conclusive evidence of the coven from which Gardner said he had learned the Craft, and argued that the “ancient” religion Gardner claimed to have discovered was a mélange of material from relatively modern sources. Gardner seems to have drawn on the work of two people: Charles Godfrey Leland, a nineteenth-century amateur American folklorist who professed to have found a surviving cult of the goddess Diana in Tuscany, and Margaret Alice Murray, a British Egyptologist who herself drew on Leland’s ideas and, beginning in the 1920s, created a detailed framework of ritual and belief. From his own experience Gardner included such Masonic staples as blindfolding, initiation, secrecy, and “degrees” of priesthood. He incorporated various Tarot-like paraphernalia, including wands, chalices, and the five-pointed star, which, enclosed in a circle, is the Wiccan equivalent of the cross.

Gardner also wove in some personal idiosyncrasies. One was a fondness for linguistic archaisms: “thee,” “thy,” “’tis,” “Ye Bok of ye Art Magical.” Another was a taste for nudism: Gardner had belonged to a nudist colony in the 1930s, and he prescribed that many Wiccan rituals be carried out “skyclad.” This was a rarity even among occultists: no ancient pagan religion is known, or was thought in Gardner’s time, to have regularly called for its rites to be conducted in the nude. Some Gardnerian innovations have sexual and even bondage-and-discipline overtones. Ritual sex, which Gardner called “The Great Rite,” and which was also largely unknown in antiquity, was part of the liturgy for Beltane and other feasts (although most participants simulated the act with a dagger—another of Gardner’s penchants—and a chalice). Other rituals called for the binding and scourging of initiates and for administering “the fivefold kiss” to the feet, knees, “womb” (according to one Wiccan I spoke with, a relatively modest spot above the pubic bone), breasts, and lips.

Hutton effectively demolished the notion, held by Wiccans and others, that fundamentally pagan ancient customs existed beneath medieval Christian practices. His research reveals that outside of a handful of traditions, such as decorating with greenery at Yuletide and celebrating May Day with flowers, no pagan practices—much less the veneration of pagan gods—have survived from antiquity. Hutton found that nearly all the rural seasonal pastimes that folklorists once viewed as “timeless” fertility rituals, including the Maypole dance, actually date from the Middle Ages or even the eighteenth century. There is now widespread consensus among historians that Catholicism thoroughly permeated the mental world of medieval Europe, introducing a robust popular culture of saints’ shrines, devotions, and even charms and spells. The idea that medieval revels were pagan in origin is a legacy of the Protestant Reformation.

Hutton has also pointed out a lack of evidence that either the ancient Celts or any other pagan culture celebrated all the “eight feasts of the Wheel” that are central to Wiccan liturgy. “The equinoxes seem to have no native pagan festivals behind them and became significant only to occultists in the nineteenth century,” Hutton told me. “There is still no proven pagan feast that stood as ancestor to Easter”—a festival that modern pagans

celebrate as Ostara, the vernal equinox.

Historians have overturned another basic Wiccan assumption: that the group has a history of persecution exceeding even that of the Jews. The figure Starhawk cited—nine million executed over four centuries—derives from a late-eighteenth-century German historian; it was picked up and disseminated a hundred years later by a British feminist named Matilda Gage and quickly became Wiccan gospel (Gardner himself coined the phrase “the Burning Times”). Most scholars today believe that the actual number of executions is in the neighborhood of 40,000. The most thorough recent study of historical witchcraft is *Witches and Neighbors* (1996), by Robin Briggs, a historian at Oxford University. Briggs pored over the documents of European witch trials and concluded that most of them took place during a relatively short period, 1550 to 1630, and were largely confined to parts of present-day France, Switzerland, and Germany that were already racked by the religious and political turmoil of the Reformation. The accused witches, far from including a large number of independent-minded women, were mostly poor and unpopular. Their accusers were typically ordinary citizens (often other women), not clerical or secular authorities. In fact, the authorities generally disliked trying witchcraft cases and acquitted more than half of all defendants. Briggs also discovered that none of the accused witches who were found guilty and put to death had been charged specifically with practicing a pagan religion.

If Internet chat rooms are any indication, some Wiccans cling tenaciously to the idea of themselves as institutional victims on a large scale. Generally speaking, though, Wiccans appear to be accommodating themselves to much of the emerging evidence concerning their antecedents: for example, they are coming to view their ancient provenance as inspiring legend rather than hard-and-fast history. By the end of the 1990s, with the appearance of Davis's book and then of Hutton's, many Wiccans had begun referring to their story as a myth of origin, not a history of survival. “We don't do what Witches did a hundred years ago, or five hundred years ago, or five thousand years ago,” Starhawk told me. “We're not an unbroken tradition like the Native Americans.” In fact, many Wiccans now describe those who take certain elements of the movement's narrative literally as “Wiccan fundamentalists.”

AN even more controversial strand of the challenge to the Wiccan narrative concerns the very existence of ancient Goddess worship. One problem with the theory of Goddess worship, scholars say, is that the ancients were genuine polytheists. They did not believe that the many gods and goddesses they worshipped merely represented different aspects of single deities. In that respect they were like animistic peoples of today, whose cosmologies are crowded with discrete spirits. “Polytheism was an accepted reality,” says Mary Lefkowitz, a professor of classics at Wellesley College. “Everywhere you went, there were shrines to different gods.” The gods and goddesses had specific domains of power over human activity: Aphrodite/Venus presided over love, Artemis/Diana over hunting and childbirth, Ares/Mars over war, and so forth. Not until the second century, with the work of the Roman writer Apuleius, was one goddess, Isis, identified with all the various goddesses and forces of nature.

As Christianity spread, the classical deities ceased to be the objects of religious cults, but they continued their reign in Western literature and art. Starting about 1800 they began to be associated with semi-mystical natural forces, rather than with specific human activities. In the writings of the Romantics, for example (John Keats's “Endymion” comes to mind), Diana presided generally over the woodlands and the moon. “Mother Earth” became a popular literary deity. In 1849 the German classicist Eduard Gerhard made the assertion, for the first time in modern Western history, that all the ancient goddesses derived from a single prehistoric mother goddess. In 1861 the Swiss jurist and writer Johann Jakob Bachofen postulated that the earliest human civilizations were matriarchies. Bachofen's theory influenced a wide range of thinkers, including Friedrich Engels, a generation of British intellectuals, and probably Carl Jung.

By the early 1900s scholars generally agreed that the great goddess and earth mother had reigned supreme in ancient Mediterranean religions, and was toppled only when ethnic groups devoted to father gods conquered her devotees. In 1901 the British archaeologist Sir Arthur Evans excavated the Minoan palace at Knossos, on Crete, uncovering colorful frescoes of bull dancers and figurines of bare-breasted women carrying snakes. From this scant evidence Evans concluded that the Mi-

noans, who preceded the Zeus-venerating Greeks by several centuries, had worshipped the great goddess in her virgin and mother aspects, along with a subordinate male god who was her son and consort. Throughout the 1920s and 1930s archaeologists excavating Paleolithic and Neolithic sites in Europe and even Pueblo Indian settlements in Arizona almost reflexively proclaimed the female figurines they found to be images of the great goddess.

The archaeologists drew on the work of late-nineteenth-century anthropologists. A belief that Stone Age peoples (and their “primitive” modern counterparts) did not realize that men played a role in human procreation was popular among many early British and American anthropologists. Female fertility was an awesome mystery, and women, as the sole sources of procreation, were highly honored. This notion—that hunter-gatherer societies couldn't figure out the birds and the bees—has since been discredited, but “it was very intriguing to people mired in Victorianism,” according to Cynthia Eller, a professor of religious studies at Montclair State University, in New Jersey, who is writing a book on the subject. “They wanted to find a blissful sexual communism, a society in which chastity and monogamy were not important,” Eller says. It was the same general impulse that led Margaret Mead to conclude in the 1920s that Samoan adolescents indulged in guilt-free promiscuity before marriage.

Archaeological expeditions even in the latter half of the century bolstered the notion of a single goddess figure from antiquity. In 1958 a British archaeologist named James Mellaart made a major find: a 9,000-year-old agricultural settlement that once housed up to 10,000 people at Çatalhöyük, one of the largest of several mounds near the modern-day town of Konya, in southern Turkey. Mellaart unearthed a number of female figurines that he deemed to be representations of the mother goddess. One was a headless female nude sitting on what appears to be a throne and flanked by leopards, with a protuberant belly that could be interpreted as a sign of pregnancy. The Çatalhöyük settlement contained no fortifications, and its houses were nearly all the same size, seemingly implying just the sort of non-violent, egalitarian social system that Goddess-worshippers believe prevailed. Çatalhöyük became the Santiago de Compostela of the Goddess movement, with

80s flashback

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- Debbie Gibson: Lost In Your Eyes...2803
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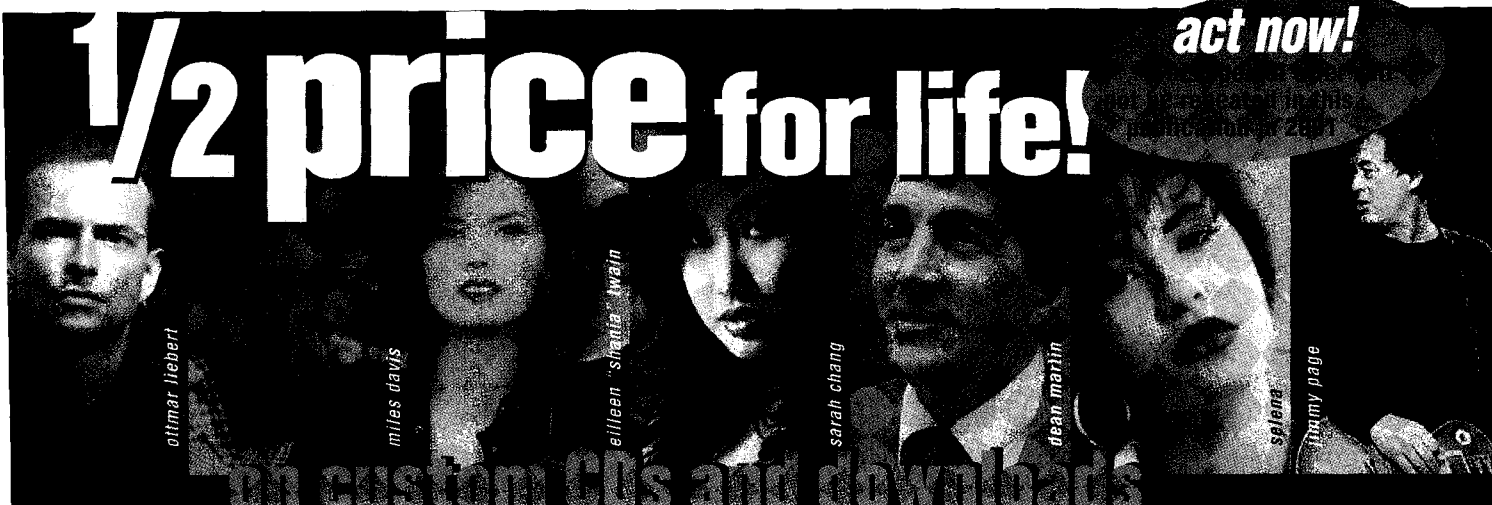
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hundreds of pilgrims visiting the settlement annually. The enthroned nude is a revered Goddess-movement object.

Mellaart's conclusions were bolstered by the work of the late Marija Gimbutas, a Lithuanian-born archaeologist who taught at the University of California at Los Angeles until 1989. Gimbutas specialized in the Neolithic Balkans. Like Mellaart, she tended to attach religious meaning to the objects she uncovered; the results of her Balkan digs were published in 1974 under the title *The Gods and Goddesses of Old Europe*. In 1982 Gimbutas reissued her book as *The Goddesses and Gods of Old Europe*, and she began seeing representations of the Goddess, and of female reproductive apparatus (wombs, Fallopian tubes, amniotic fluid), in a huge array of Stone Age artifacts, even in abstractions such as spirals and dots.

In 1993 Ian Hodder, a Stanford University archaeologist, began re-excavating Çatalhöyük, using up-to-date techniques including isotopic analysis of the skeletons found in the graves. "Your bones reflect what you eat, even if you died nine thousand years ago," Hodder says. "And we found that men and women had different diets. The men ate more meat, and the women ate more plant food. You can interpret that in many ways. A rich protein diet is helpful for physical activity, so you could say that the men ate better—but you could also argue that the women preferred plant food. What it does suggest is that there was a division of labor and activity"—not necessarily the egalitarian utopia that Goddess worshippers have assumed.

Hodder's team also discovered numerous human figurines of the male or an indeterminate sex, and found that the favorite Çatalhöyük representation was not women but animals. None of the art the team uncovered conclusively depicts copulation or childbirth. Hodder, along with most archaeologists of his generation, endeavors to assess objects in the context of where they were unearthed—a dramatic change from the school of archaeology that was in vogue at the time of Mellaart's and Gimbutas's excavations. He points out that almost all the female figurines at Çatalhöyük came from rubbish heaps; the enthroned nude woman was found in a grain bin. "Very little in the context of the find suggests that they were religious objects," Hodder says. "They were maybe more like talismans, something to do with daily life." Furthermore, excavations of

sites in Turkey, Greece, and Southeastern Europe that were roughly contemporaneous with the Çatalhöyük settlement have yielded evidence—fortifications, maces, bones bearing dagger marks—that Stone Age Europe, contrary to the Goddess narrative, probably saw plenty of violence.

Lynn Meskell, an archaeologist at Columbia University who has published detailed critiques of Gimbutas's work, complains that Gimbutas and her devotees have promoted a romanticized "essentialist" view of women, defining them primarily in terms of fecundity and maternal gentleness. "You have people saying that Çatalhöyük was this peaceful, vegetarian society," says Meskell. "It's ludicrous. Neolithic settlements were not utopias in any sense at all."

The research of archaeologists like Hodder and Meskell has sparked heated rebuttals from Goddess theorists. "We know that even in the West most of art is religious art," says Riane Eisler, the author of the best seller *The Chalice and the Blade* (1987). "Don't tell me that suddenly these are dolls. Give me a break! You have a woman at Çatalhöyük sitting on a throne giving birth, and you want to call it a doll?" In her introduction to a new edition of *The Spiral Dance*, Starhawk—who is working on a film about Gimbutas—complains about "biased and inaccurate" academic scholarship aimed at discrediting her movement. Perhaps the most painful attack, as far as many Wiccans are concerned, came last June, with the publication of Cynthia Eller's *The Myth of Matriarchal Prehistory*. In 1993 Eller had published a sympathetic sociological study of feminist spirituality, *Living in the Lap of the Goddess*, which many in the movement put on their required-reading lists. Her recent work thus carries a tinge of betrayal, inasmuch as it puts her firmly in Hodder and Meskell's camp. Eller points out that almost no serious archaeologist working today believes that these ancient cultures were necessarily matriarchal or even woman-focused, and most do not interpret any of the things unearthed by Mellaart and Gimbutas as necessarily depicting goddesses or genitalia.

Despite their ire, both Starhawk and Eisler, along with many of their adherents, seem to be moving toward a position that accommodates, without exactly accepting, the new Goddess scholarship, much as they have done with respect to the new research about their movement's beginnings.

If the ancients did not literally worship a mother goddess, perhaps they worshipped her in a metaphoric way, by recognizing the special female capacity for bearing and nourishing new life—a capacity to which we might attach the word "goddess" even if prehistoric peoples did not. "Most of us look at the archaeological artifacts and images as a source of art, or beauty, or something to speculate about, because the images fit with our theory that the earth is sacred, and that there is a cycle of birth and growth and regeneration," Starhawk told me. "I believe that there was an Old Religion that focused on the female, and that the culture was roughly egalitarian."

SUCH faith may explain why Wicca is thriving despite all the things about it that look like hokum: it gives its practitioners a sense of connection to the natural world and of access to the sacred and beautiful within their own bodies. I am hardly the first to notice that Wicca bears a striking resemblance to another religion—one that also tells of a dying and rising god, that venerates a figure who is both virgin and mother, that keeps, in its own way, the seasonal "feasts of the Wheel," that uses chalices and candles and sacred poetry in its rituals. Practicing Wicca is a way to have Christianity without, well, the burdens of Christianity. "It has the advantages of both Catholicism and Unitarianism," observes Allen Stairs, a philosophy professor at the University of Maryland who specializes in religion and magic. "Wicca allows one to wear one's beliefs lightly but also to have a rich and imaginative religious life."

"Diotima Mantinea," age forty-eight, is the associate editor of the Web site *The Witches' Voice*, found at witchvox.com (she would not divulge her real name, partly because she lives in a southern town that she believes is unfriendly to neopagans). She summed up her feelings on the debunking of the official Wiccan narrative this way: "It doesn't matter to me how old Wicca is, because when I connect with Deity as Lady and Lord, I know that I am connecting with something much larger and vaster than I can fully comprehend. The Creator of this universe has been manifesting to us for all time, in the forms of gods and goddesses that we can relate to. This personal connection with Deity is what is meaningful. For me, Wicca works to facilitate that connection, and that is what really matters." ☸



Flushing Out the *Shlaki*

*The surprising consolation of formerly
Soviet medical care*

IFIRST felt something was wrong in the evening. As my taxi whisked me across the spreading black expanses of the Crimean steppe, under a purpling, starry canopy of winter sky, I began to sense a pressure behind the ears, an ache behind the eyes. When, around midnight, we pulled into the halogen-lit warrens of Odessa, my destination, I felt worse, ragged and exhausted, unsteady on my feet; I knew I had to see a doctor.

But what sort of doctor was I going to find in Odessa? In Moscow, where I live,

by Jeffrey Tayler

European and American clinics provide effective, if exorbitantly priced, medical care. In Odessa, a provincial Ukrainian city much poorer than the Russian capital in everything, perhaps, save culture and monuments to Chekhov and Pushkin, there were no such Western-style amenities. Just the thought of checking into an unreconstructed formerly Soviet clinic and subjecting myself to the dirty sheets, bloody floors, shortages of medicines, and rancorous, ill-trained staff I had seen during visits to sick friends in Rus-

sian hospitals brought on something akin to vertigo, and I felt suddenly vulnerable and queasy with fear.

After settling in to my hotel room, I called my wife, in Moscow. She is Russian, and after expressing concern about my health, she said, "Well, tell the hotel receptionist that you need a doctor and you'll pay for it. Just stay away from the free state clinics. Odessans are very educated. You'll find a good doctor if you pay."

"But . . . a Ukrainian clinic? Whether I have to pay or not, I don't know. Maybe I should just wait until I get back to Moscow."

"That's not necessary," she answered. "Our Soviet doctors are some of the best in the world. Really, the problem isn't that they're unskilled; it's that most are paid so little they don't care if their patients live or die. But if you pay them, they care."

After hanging up, I told the hotel re-

ceptionist I wanted a pay doctor. She advised me to try the recently privatized clinic off Primorsky Boulevard. It was, she said, one of the best in the city.

IN the morning the bare black branches of ancient mulberry trees stood stark against a frigid blue sky, and the feeble February sun washed the nineteenth-century buildings of the center in slanting gold light. Rusty old taxis rattled and tooted down potholed avenues. The clinic off Primorsky Boulevard rose before me, an architectural relic of the Stalin decades. It was two-story and lopsided, flat-roofed and covered in peeling orange stucco, recalling, with its careless design and inwrought decrepitude, every wretched building ever erected by every wretched slave-labor gang in every wretched gulag city. *This is the best Odessa has*, I thought. Looking at the clinic, I felt a renewed onrush of dizziness that seemed

*Just the thought of
checking into a formerly
Soviet health clinic
brought on something
akin to vertigo.*

at once to prompt me to enter and incite me to flee. I dithered, but finally the ache behind my eyes persuaded me to take the risk. I darted through the door.

"*Muzhchina*!" ("Mister!") a grandmotherly woman in a conical white paper hat called out from a tiny barred window near the entrance. "Halt! You have to register with me first!" Above her hung a menu of medical procedures in eye-strainingly minute script: EKGs, x-rays, ultrasound probes, blood and urine tests, VD screenings, massages, MRIs, all listed with their prices. One could take one's pick, suffer a jab or give a sample, learn the results, and walk out; consultation with a doctor was optional.

I told her my symptoms and asked for a consultation with a doctor.

"*Muzhchina*, we're legally obliged to do tests before anything else," she answered, her hat wobbling with an im-

perious wag of her head. "Why not try an EKG and have your blood pressure checked? We have a good cardiologist here."

"Well, if it's the law, okay." I figured that a cardiologist would at least have had serious training—a good person to start with.

"That will be twenty-one hryvnia"—about four dollars.

She took my money and told me to go to Room 25. Carrying a limp brown piece of paper showing that I had paid, I joined the crowd hustling down ramshackle green halls, mindful of undulating warps in the cracked linoleum floor and paint flaking off the walls. Treatment here was apparently a cause for some merriment: middle-aged men and women sat beneath ceiling-high windows, enjoying the bath of light, bantering in lively tones about symptoms and cures, their drooping eyes fixed on one another, their eyebrows dancing with the enthusiasm they felt for their common subject—their health. Only the young, who were mainly women, looked sullen, perhaps because they were for the most part queuing outside offices whose block-letter signs indicated the humiliating analyses performed within: VD TESTS, STOOL SAMPLES, URINE TAKEN HERE. I thought of the epidemics of syphilis and gonorrhea now afflicting the former Soviet Union, and of the shaming stares and abusive remarks ("*Shlyukha!* [Slut!] You should whore around less! What would your parents think if they found out about your dirty disease?") to which I had heard that doctors and nurses still subjected their young female patients, in the most pitiless and perdurable traditions of Soviet moral upbringing.

Room 25 was a great blue room furnished with clean but aged cots and wheeled chairs, along with a Soviet-era contraption of iron and glass bristling with wires and meters—an electrocardiograph. A pert young man introduced himself as the assistant and then attached the wires—electrodes—to my chest, pushed a button, and read the yards of ticker tape that spurted out of the machine's nether end. In came the doctor—a green-smocked, red-faced, and jovial middle-aged fellow with a big belly and a shock of white hair. There was something avuncular in his sad blue eyes, and the breath in his lungs rattled with what I took to be asthma or a smoker's cough. He examined my EKG, frowned, and took my blood pressure.

His eyebrows jiggled with concern. Wheezing, he took the stethoscope plugs out of his ears and asked, "Drink any cognac recently?"

"Why, yes, in fact. The other day I had a couple of snifters with a friend."

"What was the brand name?"

"I don't know. What does that have to do with my EKG?"

"How much did the bottle cost?"

"About five dollars"—a standard price.

"Oho! That's what did it. It raised your blood pressure. It's a bit high."

I objected to his analysis: I had not drunk enough to feel inebriated, and that was three days earlier, and in any case what had the price of cognac to do with anything?

He shook his head. "Listen, real cognac—the Armenian kind that in Soviet days used to be sold everywhere—costs a hundred dollars a bottle now and *lowers* the blood pressure; in fact, my father treated his hypertension with a good strong hundred grams of the juice a night. But what you drank was bootleg. Swill. Gasoline. Nothing like the real Armenian article!" His tongue ran over his dry lips, his voice in its sudden hoarseness suggesting an intimate familiarity with all sorts of liquor. "I ask you: can real cognac cost five dollars a bottle? Think about it."

"You're probably right. But what's wrong with me?"

He appeared not to have heard my question. "I see cases of cognac poisoning here almost every day. You'll live, but we need to go to the military hospital and do a *u-z* [ultrasound exam]. Always good to have a *u-z* done."

"The military hospital?"

"Yes. Since 1996 they've been accepting paying customers. Quite a good deal. It was our number-two hospital in Soviet days, and now they've got German equipment and everything. I'll take you there myself."

I said okay. His offer to accompany me did not surprise me. I was a Western foreigner whose passport suggested financial solidity. It would have been foolish to treat me as he did his local patients, who were unlikely to be either as remunerative or a cause for who knew what foreign repercussions should they give up the ghost under his care. And why should I not undergo the test he was proposing? He seemed to have my best interests at heart, and I knew he must have gone through the standard six years of medical

school plus three years of *ordinatura* (a combination of internship and classroom instruction in cardiology) that would have taught him what in the West would be considered the acceptable basics of his profession.

He put on a red felt hat with a pheasant feather rakishly stuck in the side, slipped into a stylish leather jacket, and lit a Marlboro. On the street we stopped a cab and got in.

"There's a lot in our country for a writer to see," he said, exhaling smoke and turning to look at me from the front seat. "Ukraine's going to hell. All our leaders steal, and there's no hope of change. No hope, not a ray of hope, we're finished..." He wheezed and shook his head, beads of sweat forming in the folds of skin under his eyes. The cloud of smoke in the cab grew impenetrable: both he and the driver had lit up, and the windows were closed. "No hope in Ukraine"—he coughed—"nyet, no hope."

THE military hospital was a five-story brownstone building. The doctor took me past the guards at the gate, up several flights of stairs, and down several halls peopled by old men wearing medals on their gowns—veterans. In a small yellow room he introduced me to a technician and a spiffy-looking machine with a German name stamped over a luminous sea-green screen. The technician told me to take off my shirt. He smeared grease on my chest and asked me to lie on my side; then he began running a bulbous ultrasound probe in circles over my heart. The volume was set at full blast—heartbeat-paced gurgles and sputters and squeegee sounds filled the room.

"He drinks cheap cognac—the five-dollar kind," my doctor shouted over the amplified gurgling.

The technician shook his head. "All the young do. They don't know the Armenian brands."

He finished, and my doctor asked me to wait in the hall while they conferred, but not before I gave the technician his fee—two dollars' worth of hryvnia. I paid and walked out and joined the old men who were standing around staring at the floor, saying nothing and waiting for the results of their own analyses and tests.

On the street my doctor lit another cigarette. The amplified gurgles and squeegee sounds had me worried. I asked him to give it to me straight.

"You mean tell you my diagnosis?" he asked, snorting smoke. "I'd rather not say just yet. To check your kidneys and other organs we should go to the hospital of Ukrainian border guards to do a more general set of *u*-zs. They've got a new German machine there, too."

"But what exactly is it you're looking for? Can't you give me a clue?"

"Well, as I said, your blood pressure could be lower. Why not have your kidneys checked out at the border-guard hospital? Often a kidney infection can raise the blood pressure."

"And the hospital for border guards is the place for such a test?"

"It costs some money, but they do good kidney *u*-zs. Anyway, in Moscow you'd pay a pretty kopeck for such service—a lot more than here."

AFTER another taxi ride of smoke, coughing, potholes, and commentary ("City's falling apart." *Bump*. "But who cares? No hope here in Ukraine." *Cough, bumpety-bump*. "Nyet, no hope at all"), we turned right behind the Yantar Café and pulled up to a concrete shack. Border guards in blue—with the same vaguely hostile faces I had seen at passport control on landing in Kiev—loitered in the parking lot. The doctor took me past them and up three flights of stairs. As we walked into the ward, a husky nurse came charging out of the receptionist's office, her arms raised, her huge bosom bouncing, her flip-flops scuffing the dusty linoleum. She shouted at the top of her smoke-clogged lungs, "Why are you using this entrance! You'll disturb our patients by walking down the hall like this! Always use the side entrance!"

All male and mainly young, the patients on stretchers scattered up and down the ward raised themselves in alarm, or peered at us from rooms where they were bunked in groups of five or six without the privacy of screens or hanging sheets. My doctor tried to apologize, but the nurse followed us and persisted in her shrill attacks. "You're creating an uproar traipsing through here like this! You should be ashamed! What kind of peace and quiet can my patients get with you making such a ruckus!"

My doctor hustled me into a small, immaculate white room and shut the door, cutting the shrew off in mid-diatribes. "Whew!" he said, and winked at me.

Two young women were cleaning

utensils in a sink. One of them wore a nametag that read YELENA. I removed my shirt. Yelena greased my stomach and began the exam, keeping her eyes on the screen as her hand guided the probe hither and yon.

"He drinks five-dollar cognac, not the Armenian kind," my doctor said. "But you, Yelena, might be too young to know Armenian cognac. This country's going to hell. Young people are drinking all this bootleg swill..."

Yelena paid him no attention, addressing me as she studied the screen. "You have... yes, it's clear now... aha... you've had sausage and black bread for breakfast... You had an infection in your gall bladder at some point. I think we should examine your gall bladder more carefully. Eat coal tablets [a common Soviet-era remedy for diarrhea, which I did not have] and abstain from sausages for twenty-four hours. Then come and see me in the morning. We'll do another test."

I had never had an infection in my gall bladder, but her sincerity and soft manner prompted me not to object. "Well, what could be wrong?"

"All I can say now is you'll live as long as you're supposed to live."

Her words reminded me of an aphorism I had heard quoted by a Soviet doctor friend years ago in Tashkent, an aphorism that might well serve as a Soviet version of the Hippocratic oath: "He who is fated to hang will not drown." That I was going to live as long as I was supposed to live sounded like basically good news, and not wanting to tempt fate, I decided to refrain from asking any more questions. I paid her a couple of dollars and promised to return. She wrote out an elaborate recommendation concerning what other organs I should have checked at what other defense-related hospitals, smiled, and handed me a packet of coal.

My doctor led me out onto the street. He grabbed the packet, crumpled it, and tossed it in the gutter. "There's nothing wrong with your gall bladder—I saw the screen. Let's just go back to our clinic."

My fears about my condition revisited me. "Well, what's your diagnosis?"

"We'll talk at the clinic."

AT the clinic we returned to Room 25 and sat down at his desk. The assistant entered, grinning. "A fat lady's coming. Big as a boat!"

"Oho!" the doctor said.

A large woman in her late fifties waddled in and asked in a loud voice if she should strip. "Strip!" the assistant said. Older people here, raised in the abnegating spirit of Soviet collectivism, are unaccustomed to the privacy we would demand in a doctor's office in the West, but I felt ashamed for her nonetheless. She reclined on the cot in front of the desk, and I turned away from her.

She complained to the assistant in practiced tones. She was, it seemed, a professional patient. The doctor ignored her. Patting the perspiration from under his eyes with his handkerchief and breathing loudly through his nose, he began writing and writing, covering an entire sheet with elegant, looping script. From the amount of it, I gathered I had much to be cured of. I felt nervous once again.

"Well, have you reached a diagnosis?"

"You seem to have a bit of high blood

Wheezing, the Ukrainian doctor took the stethoscope plugs out of his ears. "Drink any cognac recently?"

pressure," he said, fingering a cigarette as though aching to light up. "It's not the chronic kind, but you've got to watch it. What I'd really like is for you to stay here in Odessa and let me treat you. In a couple of months I could whip you into fine shape."

"How?"

"I'd flush all the *shlaki* [junk] out of your *organizm* [system]. You see, our ecological conditions are killing us. Our *organizm* can get all clogged up with *shlaki*."

I glanced down at the notes he had just finished writing. A couple of medicines were listed (Ukrainian-made tablets that lowered blood pressure), but mostly he had detailed a two-month regimen that included powdered birch buds, thrice-daily injections of broth of boiled dog rose, and regular dashes of polpola grass, followed by copious servings of figs,

pomegranates, dried apricots, plums, and curds. All this was to be finished off with a nightcap composed of tincture of valerian—an herbal tranquilizer. Judging by the frequency of feeding and pricking, and the complexity of the cooking methods prescribed, if I chose to take his advice I would be spending the better part of the day running to the market and back, boiling and mincing, chewing and stabbing.

I recognized all this as part Russian folk cure, part Soviet medicine—the sort of odd mixture of things commonly prescribed here to relieve malaise rooted in stress and grief and hardship, the eternal elements of Soviet and post-Soviet life. The paternalistic Soviet state used to give free health care to all; for many in a society that did not reward hard work, the chiding of doctors was nourishing attention, the boiling of herbs a comforting ritual.

The doctor smiled. "People like you and me live hard and burn out young. We've got to watch it."

As I started to ponder this grave yet matey pronouncement, a chorus of creaky springs resounded from the cot behind me: the large woman, now clad in only her reinforced bra and broadsheet panties, had sat up. She said, "Take the doctor's advice! I clean the *shlaki* out of my system with those grasses—they really help!"

The doctor noticed the skepticism about his cure that had crept over my face. He hurried to tell me that Odessans were very unhealthy, that life expectancy was dropping, and that they did not have access to Western medicines, which were rare and far too expensive for the majority of people, who earned the hryvnia equivalent of \$10 or \$20 a month. Ukrainians did not trust medicines anyway, he said—they preferred familiar folk cures. Hence the herbs and fruits, which were, he insisted, just as effective as pills, and more natural. They would clean out my *shlaki*.

In his compassionate blue eyes I saw a doctor who truly wanted to heal me, in the way he judged most effective. Issuing frank diagnoses and chemical prescriptions was, I now gathered, not really what he was used to doing or what he thought I wanted. Experience with elderly and dying people in my wife's family had taught me that doctors here often withhold the truth from their patients, telling it only to

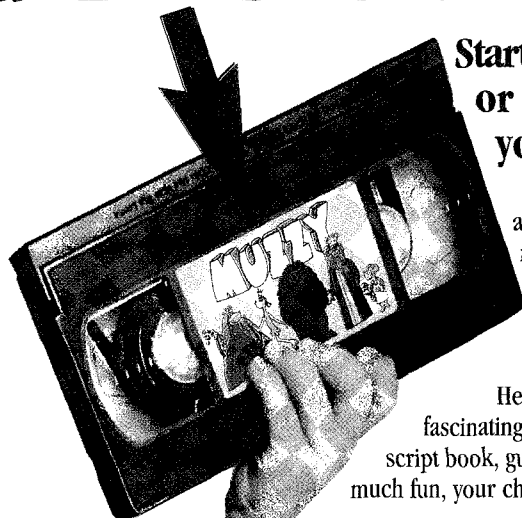
their relatives, and usually ensconcing it in copious verbiage, including admonitions of the not-to-worry variety. He must have assumed that I needed the consolation offered by homebred cures—as did the large woman on the cot, as did so many others in the former Soviet Union who live tough and tragic lives that leave them ready for the grave at fifty. But I had no faith in such cures, and didn't want to try them.

I DIDN'T tell him that, however, ill though I still felt. There was no point in dragging out my visit, since it was clear that what I was suffering from was a bout of high blood pressure—a symptom of the mundane process of aging. But the doctor and the woman on the cot, to say nothing of the resigned expressions on the faces of the patients in the halls, appeared to be telling me that everything—illness, debility, and death—would happen to me in its own time, and I had better just accept that and take comfort when and where I could find it: in boiled broth of dog rose and powdered birch buds, for example, and in the notion of *shlaki* being salubriously flushed out of my *organizm* by cures approved by papa and mama, grandpa and grandma, by the neighbors and the village healer. Anyway, if I was not fated to drown, I would hang.

I asked him what his fee was, thinking about the five hours he had taken out of his day to spend with me. Three dollars. I paid him this and added a tip and said good-bye, thanking him for his compassion and efforts. In the closet-size pharmacy near the lobby I bought the medicines he had prescribed, but I forwent the long search in local markets that would have been necessary to find the dog rose, herbs, buds, and fruits.

The next evening I felt fine (as a result of the doctor's pills, I believe) and, much relieved, went for a walk along the promenade above the port. The sun was slipping into the Black Sea, bronzing the slate-gray waters and bouncing off the dock cranes and trawlers and rusted African freighters clogging the harbor. Couples, laughing and snuggling, were strolling arm in arm beneath the ancient mulberry trees, their collars raised against the stiffening breeze. I watched them for a while and then turned back toward my hotel, to call my wife and tell her I had been cured. ☘

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My Mother's Dresses

*Searching for the unattainable amid
the comforting chaos of a bargain basement*

I'VE been known of an afternoon to set off on a walk—to clear my head, take a break from my desk—and eventually find myself at Filene's Basement. The Basement, Boston's famous discount store, the first of its kind in the world, accommodates a peculiar mood of mine: a jumble of dreaminess, despair, and distraction. At the office such a cluttered malaise is unbearable. But at the Basement my mood seems to find its reflection in the store's carnival of disorder, and something like calm takes over.

by **Kate Bolick**

All those piles of turtlenecks, their arms splayed like the arms of supplicants. All those unabashed bras. Two floors of racks jam-packed with motley decadence: corduroy vests, linen shirts, satin pants, velvet skirts. Bins of suede gloves, walls of straw hats. The store nearly vibrates with commotion—elbows elbowing, purses slinging, while silently, here and there, silky shirts slip from hangers to the floor. And everything is discounted.

Filene's Basement is, after all, what it

is: a bargain basement. Yet to go there and buy an iridescent emerald shirt with silver cufflinks marked down from \$79.99 to \$14.99 is not about acquisition, or even consumption. It is about immersing oneself in a bedlam laced with promise.

Such a place leaves little room for self-indulgent melancholy. So utterly obvious, so literally out-on-the-table, the store's offerings seem a monument to forthrightness. Even the main fitting room is blatant, a communal space crowded with half-dressed women stepping in and out of skirts, sticking arms through sleeves. Among them I feel closer to my own sex than at any other time, and I am hard-pressed not to turn to the matron beside me who is tugging at a stubborn zipper to ask if she thinks my pants fit right. Sometimes I do ask, with a warm rush of embarrassment over my surely transparent neediness (I am reduced to a motherless duckling in this room), but I am always dismayed by the reply. What I am asking for, I realize, is an echo of my mother's voice, not the opinion of a stranger.

MY mother would be chagrined to know that I feel closest to her when I'm at Filene's Basement. She was not "a shopper." She did not "like clothes." Year-round she favored a certain kind of pastel-colored cotton/polyester-blend polo shirt emblazoned over the left breast with a crestlike insignia. She had many such shirts and wore them with pleated khakis, nondescript sneakers, and a drug-store watch. The watches were forever breaking. When, as I was growing up, I would ask her to drive me down Route 1 into Boston for back-to-school shopping (we were partial to discount outlets such as Marshalls and TJ Maxx, which lined the route), she would occasionally supplement her shirt supply with one in winter navy and indulge in a new pair of khakis, but that was usually it. Her bras she cared about, but only because she needed to have a pocket sewn in one cup to hold a synthetic breast—a smooth, jiggly pear half boasting the lifelike bump of a nipple; she'd had a mastectomy when she was forty. True to character, her underwear was a practical, modest affair—baggy nylon balloons.

Our retreat to the fitting room was her first defeat. Basement veterans both (she

had shopped there with her own mother), we were accustomed to simply parking ourselves next to a mirror amid the clothing racks and the other shoppers and trying things on in the open. We wore outfits suited to this—slip-on shoes, and skirts under which we could pull on a pair of pants. When one of us was caught contorted in an ill-fitting garment, at risk of exposing more than mere shoulders, the other would stand with her coat spread wide as a shield.

But after my mother's second mastectomy—she was fifty this time—the gymnastics necessary for discreet public changing tugged at her scars. It hurt too much. So we started waiting in line with the tourists and the faint of heart, and we grew used to the averted eyes and territorial vigor that were customary in the fitting room. Neither of us much liked the new routine; changing clothes out on the open floor had been intrinsic to our Basement experience. But for her the retreat was more than distasteful; it was a capitulation. Dispirited, she would wait impatiently as I modeled yet another sweater. At the time, I couldn't see defeat in the fitting room. In fact, I viewed all those mirrors as some repeated promise, an affirmation of our familiar selves reflected twenty times over.

ONE shopping trip—one of our last outings together, it turned out—really seemed to gain us some ground, to give us back something stolen. For all her indifference to matters of appearance, my mother was proud, even vain, of her narrow waist, and had refused to acknowledge that the more than twenty pounds she'd gained as a side effect of her many medications was there to stay. "Oh, my pants are so tight," she'd complain. I had just finished college and was living across the country, in Oregon. "Get some new ones," I'd tell her. "No, no," she'd say.

It was Christmas, and I was home for the holidays, and I had persuaded her to drive with me down Route 1 to the Basement. I was determined to find her some clothes that would fit. I had in mind full, roomy frocks, the sort that would both flatter her new shape and feel good to wear—bright, comfortable, feminine. I was giddy with the mission. She was graciously complying. At the Basement I gave the petite racks—our old domain—a wide berth and guided her toward the larger sizes. She protest-

ed, still not willing to admit that she was no longer a size 8. She seemed embarrassed even to be in this new territory, where the dresses hung from their hangers like tents.

The racks were fertile with dresses. I decided on size 12 and started pulling out dresses. There seemed to be hundreds. When I plucked one, five more would crowd into the gap. My mother stood by, silent, hands at her sides, and then, slowly, she began to warm to the game. "That one looks nice, don't you think?" she said, pointing. The pile on my arm mounted past my shoulder.

By the time we made it to the fitting room, carrying fourteen dresses between us, she was almost excited to try them on. Surely the fitting room was crowded, but I can recall only our optimistic, intimate sphere—and who is here to dispute my memory? We had a mirror to ourselves, two hooks on which to hang the dresses, and just enough space to indulge in the ritual preening: look at the front, turn, look at the side, turn, look at the back. As she unbuttoned and wriggled out of her khakis, revealing a red crease encircling her swollen belly, and pulled her shirt gently over her head, exposing her age-old Bali bra that still managed to make her look flat-chested and girlish, even with the synthetic slip-ins, I unzipped a dress from its hanger and readied it for her. She stepped into it. I zipped her up and stood aside, and together we looked at her reflection.

Bigger, yes. Fuller, yes. But without a tight pinch to her face. For the first time in ages she looked loose and expansive, in her body and in her expression, and the dress itself was so pretty—a blue check, reminiscent of summer picnics. She smiled. She loved it. She loved dress after dress—corduroy, cotton, velvet, wool. As she tried on one after another, winter gave way to spring, which gave way to summer, to fall, and then to winter again—pages torn from a calendar to reveal an endless future. Through it all she stood smartly in each comfortable dress, breathing breaths that filled her body. We would never have believed that in five months' time that body's secret agenda would assert itself, and she wouldn't make it to summer.

When I returned home again, in May, most of the dresses hung in the closet unworn, tags still attached like tiny false promises. ☼

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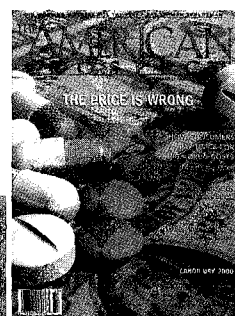
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Province of the Past

*A sojourn in the French département
of the Lot, where 25,000 years
of human history are clear to see*

THE French word *causse* (rhymes with “dose”) denotes a certain kind of limestone upland. It has no precise equivalent in English, occupying the ground we cover with such terms as “heath” and “moor.” There are several *causses* in southwestern France, but I’m especially in thrall to the Causse de Gramat, located in the *département* of the Lot, in the Quercy region, between the Dordogne River on the north and the Lot River on the south. The Causse de Gramat contains no urban center familiar to Americans except, in its southwestern corner, the ancient river town of Cahors, celebrated for its red wines. The region has been wonderfully evoked by W. S. Merwin in his classic prose book *The Lost Upland*, and is scrupulously described by Helen Martin in *The Lot*, in Columbus Books’ Travelscapes series (published only, alas, in London). Of the forty books about Quercy listed by Amazon.com, only three are

still in print, in English or French. Quercy’s past is more eventful than its present. Call me reactionary, then: I’ve visited there three times in a decade.

My wife and I recently rented a little farmhouse (we found it advertised in *Harvard Magazine*) called Le Petit Manoir de Sept Fas, a name that might be rendered as The Country Cottage at Seven Beeches. The comfortable house is part of a larger, ancient farming site near the village of Vaillac (population: 84), close to the geographic center of the Causse de Gramat. The farmhouse sits above a stream, at the end of a tiny paved road, surrounded by cow pastures looming with huge, slow-moving white cattle, a breed known as *blondes d’Aquitaine*. As we came and went, the beasts showed a curious but not intrusive interest in us and would even amble mildly toward our fence if we made appropriate noises.

Our two-week visit took place in the

spring, late April and early May, when along the hedgerows buttercups, dandelions (the French name is *pissenlit*), lilacs, and wisteria were blossoming. The air rang day and night with the sounds of cuckoos and nightingales, owls and blackbirds. The surrounding pastures, ploughland, and meadows were studded with stone farmhouses, many of them unoccupied, their limestone walls hairy with lichen and their roofs of stone and tile mossy with age. The landscape dripped moisture, and we were encircled by lime-nourished meadow grasses, bony adolescent oaks and hawthorns, hedgerows that had flourished in place for hundreds of years. The ploughed fields revealed a fibrous red soil mixed with splinters of limestone.

We are walking a grassy track between a hedgerow and a stone wall, a track that meanders according to the accidents of the landscape and the history of possession, keeping us safe from this man’s sheep and clear of that man’s crop. Beneath the wall sprout spring flowers, on this day in May as fresh as ever, white blossoms known as stars of Bethlehem, carried on thick stems with lacy leaves. A cuckoo is sending out his spring warning, as regular as a clock that strikes the quarter hours. Across the wall carries the sound of cows chewing, mouthing huge bites of the brilliant new grass, so fresh that it colors them where they have lain. The path proceeds past an old barn stained with lichen, its roof constructed of tile at the top but anchored with thin slabs of stone toward the bottom, where it meets the wall. Beyond the field, now that the path has risen enough to let us see, a larger building, of the same inevitable yet resourceful limestone, rises out of the grass a couple of hundred yards away. There is a ramp at one end to allow wagons to reach the second floor, and from this story rises a tower with openings under its peaked tile roof to admit the pigeons that were kept to signal prosperity, and to allow the collection of their immensely powerful manure. (In this country in the Middle Ages there were few cattle, mostly sheep, and pigeons had to do most of the

work of fertilization.) From time to time, even in daylight, a nightingale, hidden in the thicket beyond the barn, pours out the liquid tale that we think of as signifying suffering.

This is ancient turf, divided and subdivided by family squabbles, laws of inheritance, feudal infighting, and the endless tribulations of owning property. It has shaped itself into a patchwork of wild and tame, cultivated and fallow, meadowland and cropland, hedgerow and lane.

FRANCE south of the Loire owes much of its distinct character to the ancient principalities of Aquitaine and Toulouse and to the wispy memory of Albigensian heretics, extirpated by Crusaders in the thirteenth century. The sound of a forgotten language that gave the region its name of Languedoc still murmurs in the local dialects and accents, with their aftertaste of Occitan—the Provençal and Catalan language spoken long ago, before *langue d'oïl* (the language of Oui) took over France. Modern France, governed from Paris, did not gain full sovereign power until the English were driven off the mainland, a mere 500 years ago, and the Protestants (spiritual descendants of the murdered Albigensians) were hounded out by the Wars of Religion. They eventually migrated to the Netherlands, Quebec, or New Orleans, leaving France firmly under the thumbs of such problematic curators as Cardinal Richelieu and Louis XIV. The Quercy region, whose character survives despite centuries of suppression, answers to influences far older and subtler than the dominations and appurtenances of

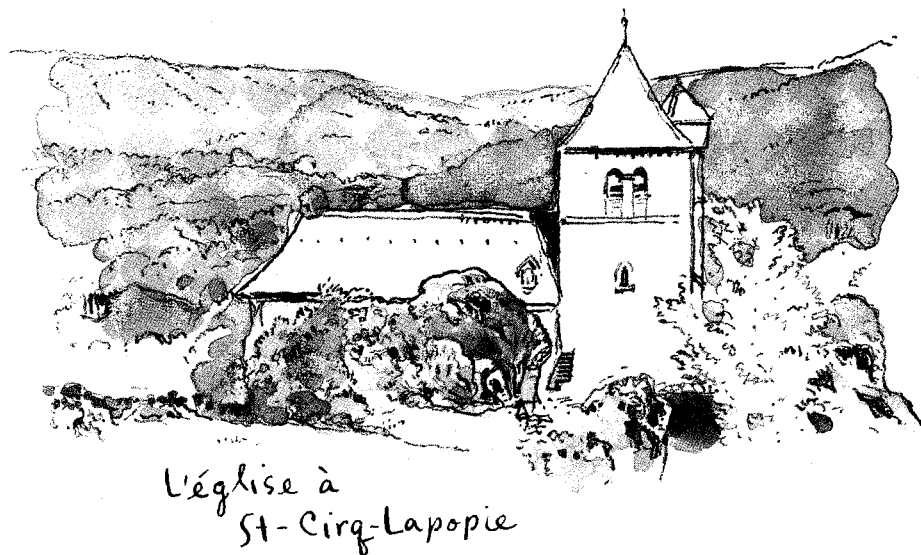


La grotte du Pech-Merle

the modern nation-state. Languedoc, and especially the Lot, bear some of the earliest discernible traces of human culture in Europe.

About seventeen miles south of Vaillac,

near the limestone cliffs of the Célé River, one may drive up a steep road toward the entrance to a series of huge caves called Pech-Merle (Blackbird Hill). Guided tours allow as many as twenty-five visitors at a time to walk through the winding caverns for about a mile and view, under incandescence, the paintings that Aurignacian Man daubed on the walls by torch-



light 25,000 years ago. Here mingle bison and mammoths, aurochs and cave bears, huge red deer and spotted horses and antelopes—visions created by men who crept far underground to celebrate in their subtle and exquisite paintings these fellow inhabitants of a vanished age. What inquiry, beyond mere curiosity, drove these fugitives to penetrate the darkness? Their very footprints are preserved in the stone, their hand prints outlined on the walls. Did they come here to depict and celebrate the now vanished creatures from which they “drew” the source of their existence, the animals they lived by or upon? We today worship the consequences of our industry: money or the devices that symbolize it. Yet we must still gasp when confronted with the mystery at which the wall painting of two spotted horses, with red pike superimposed, hints. The cave paintings of Pech-Merle radiate vitality off the moist walls of their cavern, but you need not travel to Quercy to see them: turn to the Internet and look for www.Quercy.net, and then click on the icon labeled “*Le patrimoine*.” (In their online version the scale and context are of course lacking.)

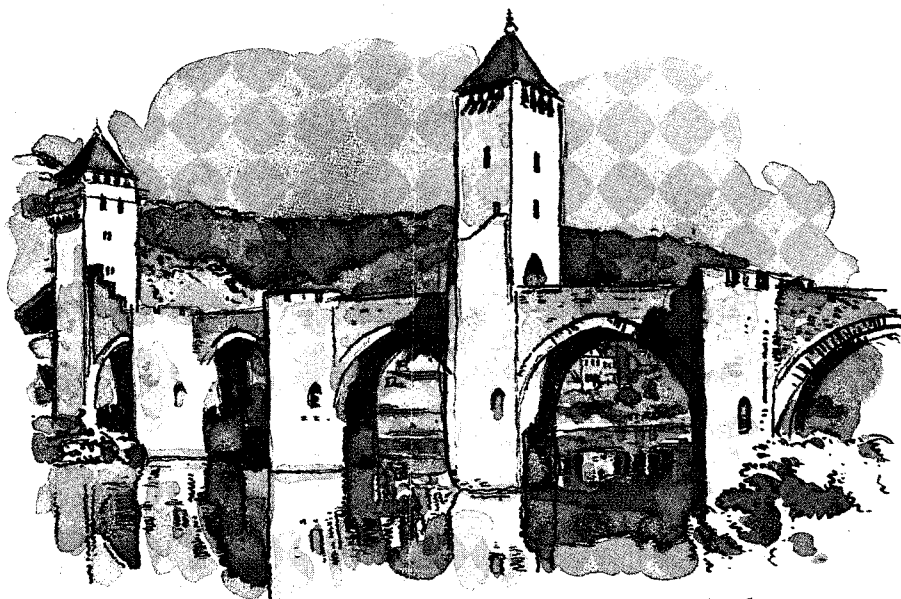
We walk on and find, as our path approaches the road with the tower on it, that there is a stream on the far side. This limestone country conceals water in every crevice. A quarter mile farther along the road we pass a high old shed that now shelters two immense green John Deere tractors. Soon afterward evidence of their obtrusive work shows up along the road, where a steep swath of hillside, uncultivable in the old days, lies turned up by the plough. We hear a stream forcefully cutting its way through the layers of stone that underlie it, and soon we begin to see on the hill to our left a crenellated castle and its stable, empty now but in the sixteenth century capable of holding 200 horses and their warrior riders for raids against the English. Below the castle, as we walk a little farther, we can make out through the trees the low gray walls and tile roofs and blunt church tower of Vaillac. As we approach the village, the houses seem to reach out to embrace us, some with their ancient stone walls intact, others covered with a cosmetic stucco, and a few even showing, in shocking colors, plastic children's playthings behind the old walls—a swing or a wagon. Just to our left a neatly walled-in ditch gurgles with the runoff from yesterday's rain; at intervals three or four chiseled steps lead down to the water's edge, to enable the washing of clothes. The water streams with long green grasses, and a wagtail bobs its feath-

ers at us but hustles away as we approach. Soon we will have the option of crossing the stream on a small stone bridge to reach the larger part of the village, on our left, or continuing another hundred yards to the end of the lane, where a steep path up the hillside to our right ascends next to a pas-

the human population as well as its cattle. By Caesar's time the tribes of Gaul had retired from their nomadic existence to graze their herds in one place and to plant and cultivate their crops behind natural redoubts and the artificial defenses of the wall.

Visitors may stumble half a mile or so

joyous infant, and a beardless Jesus hanging in melancholy triumph from his cross. Besides the church there is nothing in Vaillac likely to be open: the villagers either drive to Labastide-Murat or buy their groceries from a market truck that visits often enough.



Le pont Valentré à Cahors

ture holding four chestnut horses with stars on their foreheads, who stand and stare at us. We return their gaze, and they walk, and then trot, forward out of curiosity.

NOT far north of Pech-Merle, just short of a little village named Cras, lies a later relic of human society: traces of the Gaulish enclosed settlement known as the oppidum of Murcens, claimed by some to be the site of Uxellodunum, where in 52 B.C. Julius Caesar defeated the great chieftain Vercingetorix and, to discourage further opposition by the contumacious Gauls, chopped off the right hands of 6,000 warriors, thus eliminating Gaulish resistance to the Pax Romana. Very little physical evidence remains to hint at the sort of life the Gauls led in pre-Roman times. Pastures are still available for twenty-first-century cattle, and a few stone farmhouses stand where the countryside would expect them to. Archaeologists have excavated remnants of a long, broad wall, called the *muris gallicus*, which is thought to have surrounded parts of the settlement, enclosing

among the remaining traces of the *muris gallicus* to the upper edge of the high cliff-rampart that defended the oppidum from such enemies as might pass through the winding emerald valley of the little Célé River, far below. As we sat atop the cliff, eating hard-boiled eggs and ruminating on the Gauls and their fate, two Vietnamese couples hiked in and pulled their own meal of cold spaghetti in tomato sauce out of a backpack, creating a certain resonance with regard to the consequences and duration of empire. When we departed, leaving the river to them, we noted in our guidebook that a spring underlying this site became the source, after the Gauls' defeat, for the water supply of the Roman Divona Cadurcorum, or Cahors, seventeen miles to the south.

It is beginning to rain, so we leave the horses to it and cross to the village of Vaillac. Perhaps the church will be open, in preparation for a wedding or a funeral, and we will be able to peer inside at its fifteenth-century ceiling frescoes and two lithe twentieth-century wooden statues: Mary holding up a

CAHORS became a considerable center of Roman commerce, able to ply maritime trade along the lower Lot River, which empties into the Garonne and then into the Atlantic, after Bordeaux. Later Cahors became the site of a medieval university founded by a French Pope, John XXII, whose reign at Avignon, from 1316 to 1334, earned such notoriety that no subsequent Pope was willing to take the name until John XXIII of Bergamo did so in 1958. Today Cahors is the center not only of the old province of Quercy but also of the wine industry along the Lot. The huge cathedral of St. Etienne; the thriving Saturday market in the cathedral square; the marvelous fortified bridge, Pont Valentré, that crosses the river west of the city—all these make Cahors a place to visit, and a place to shop for wine or regional specialties or clothes (of which I was in need, owing to the baggage-handling delinquencies of Air France). There is also a first-class restaurant, Le Balandre, in the railway hotel, with gentle-pink walls, considerate bilingual service, an enormous wine list, and an ingenious and elaborate cuisine, where we enjoyed a sumptuous lunch of seafood delicacies and an amazing hazelnut dessert. (Le Balandre sports a well-merited Michelin star.)

The Lot spent centuries as a battlefield—from the Albigensian Crusade, in 1215, during the papacy of Innocent III, right through the Hundred Years' War and the Wars of Religion and into the seventeenth century, when the Cardinals Richelieu and Mazarin finally centralized the territory of France to harden under the autocracy of Louis XIV at Versailles. It's curious that the Lot today should look so harmonious and peaceful when it has suffered so many years of strife and intolerance. Perhaps it has exported everyone with a genetic tendency to be disagreeable—but it has retained plentiful evidence of past disagreement in the form of castles, fortified towns called bastides, and even a domestic architecture that strikes attitudes of defense.

This is a region to tour in, if you choose.

In addition to fortifications, it includes historic sites, churches, towns by the dozen, and villages by the score, no two alike, each of which deserves its own long story, steeped in human distress. The verdigris of this history has tinted the region with a melancholy beauty. The Lot is less touristic than the Dordogne district to its north, so beloved of the British—though it has its share, in July and August, of tourist buses.

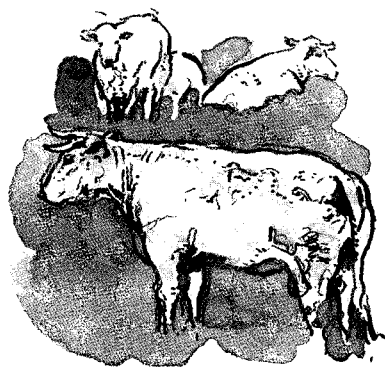
To settle down in this countryside, among verdant valleys, well-marked upland paths, and fortified hilltop towns like St-Cirq-Lapopie, on the Lot, evokes a pre-industrial existence. The Lot has so little in common with the more fevered society far to its north that after a fortnight I felt a severer culture shock on arrival in Paris than I had after my flight across the Atlantic.

As we walk back along the road toward our little farmhouse, we look in at the house of M. and Mme. Lacam, proud septuagenarian owners of the blondes d'Aquitaine that keep us company by day. The Lacams' daughter, an arboriste (who, unlike her parents, no longer speaks in Occitan accents), is visiting from Perigord. She is building a new house of old stones on the family property, and is investing the ground that slopes down to the stream with an aggressively terraced and "landscaped" garden system that will, I expect, insist on broadcasting its glories across the whole valley to attract the attention of tourists driving by on the D-2, the "scenic" route from Gourdon to Figeac. Perhaps the Lot is reaching out to a larger world at last. The daughter and a nephew walk us around the premises with a proper pride in what they have imposed on the neighborhood—here a bed of roses, there one of azaleas, over yonder a piscine, a round pool whose bright-blue chlorination will effect a Contrast. The elder Lacams smile and giggle a little at their middle-aged child's grands projets.

IN the Lot one can make imaginative journeys into the past on foot. The motor vehicle serves mainly to transport people, livestock, and such genial crops as walnuts and strawberries from farm to market. The larger economy services the region but does not yet govern it, though

a huge highway connection (the A20) now under construction to link Toulouse and Limoges threatens to change all that before long. The district's biggest industry today, apart from cookery and the production and export of such commodities as truffles and pâté de foie gras, is tourism, but it's not surprising, perhaps, that such contrarian French institutions as surrealism and the Maquis flourished particularly in this part of France. The Lot has been steadily decreasing in population for centuries: today it has half as many people as it had a hundred years ago, and one does not often see school buses or tiny children.

We return home but get a glimpse of the Lacams once more toward sunset, when they are herding their cattle out of the pastures for the night. These two old people are able to control a herd of fifty large beasts using just the sounds of their voices—an insistent "Allez, allez"—and the occasional wave of a big stick, together with the quiet intercession of the industrial world: each pasture is edged with a fence that includes a single strand of bright-blue electrical wire. Mme. Lacam, after she has turned off the fence and opened the gate to let the cattle out, stands holding a length of harmless blue twine attached to a fencepost to keep the cattle from straying away down the main road. The animals treat the blue filament as though it contained a thousand volts; keeping a respectful distance, they lumber warily back into



blondes d'Aquitaine

their corral for the night. Clearly this countryside operates on a personal scale. I say a word to Mme. Lacam about the magic power of the blue twine, and she giggles again. ☼

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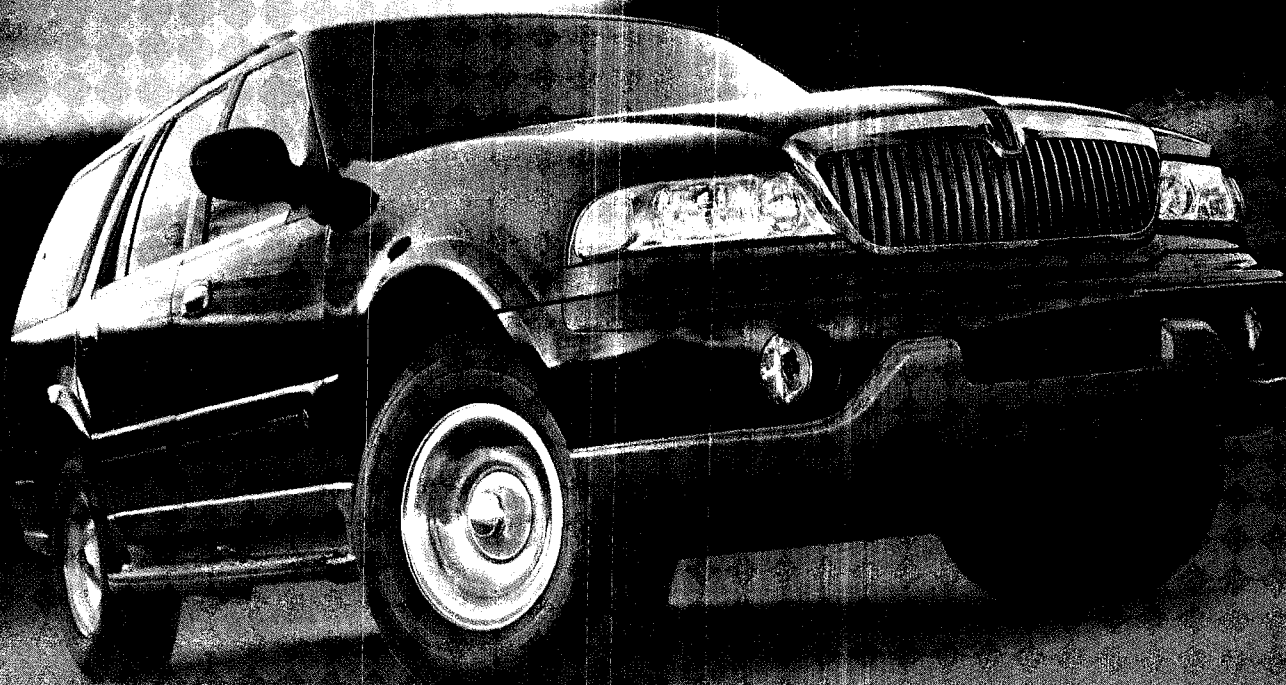
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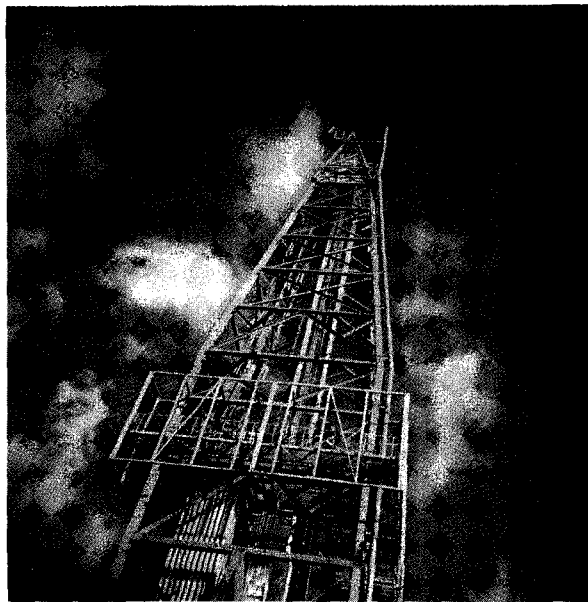
THE NEW OLD ECONOMY: Oil, Computers, and the Reinvention of the Earth

by JONATHAN RAUCH

"Knowledge, not petroleum, is becoming the critical resource in the oil business," the author writes in this firsthand account of how technology is stretching the bounds of finitude

I ARRIVED on Pompano, an oil platform in the Gulf of Mexico, on a hot day last July, hoping to be on hand when the drillers hit pay. Pompano, which belongs to BP (the former British Petroleum, now merged with Amoco and ARCO), stands in 1,295 feet of water about eighty miles southeast of New Orleans. The nearest land is twenty-two miles away. At nearly 1,400 feet from seabed to drill deck, Pompano is the world's second tallest fixed-leg oil platform (Shell's Bullwinkle platform, also in the Gulf, is fifty feet taller). If it were moved to Manhattan and you were to stand atop it, you would be looking down on the twin towers of the World Trade Center.

Pompano and various other platforms in the neighborhood are served by a little heliport in the marshy town of Venice, on Louisiana's southeastern tip. When drilling activity is intense, as it was in July, dozens of roughnecks gather at the heliport each morning for flights that scatter them around the Gulf. Leafing through the flight manifests, I noticed that the roughnecks were nearly all in their twenties or thirties and averaged not much below 200 pounds (all were men). One man



sitting near me had lost the tip of his left middle finger. At the heliport there were no skinny forearms, apart from mine. The flight to Pompano took about half an hour. At first I saw nothing but water and hazy sky; then someone pointed toward the horizon, and I made out a cork surmounted by a toothpick, and all at once the helicopter was descending on a compressed industrial city, jagged and gray and solitary in a desert of sea.

We piled off the helicopter, and I squinted in the sunshine and tried to take my bearings. To my inexperienced eye the platform was chaotic, a Cubist's fantasy of tanks and trailers and pipes and cranes and control panels and unidentifiable machinery. On the west side a flare boom extended far out over the water; to the east rose a high yellow crane. The helicopter pad was on the south end, above the living quarters and the offices. At the center, overwhelming everything else, was the derrick. Its base was elevated two stories above the deck, and its crown disappeared somewhere in the sunlight above me. I glanced at the drill floor and noticed that the people there were moving but the machinery was not—possibly a bad sign. Then I was rushed away from

the helicopter and to a stairway, which, like most of the stairways on an oil platform, was cantilevered over the edge of the platform, high above the open water and thus away from heavy equipment and from the danger, ever present around oil and gas, of fire or fumes. Newcomers have been known to look down through the grillwork, see nothing but ocean below, and freeze up with dizziness. I did all right on the stairs, but I felt better toward the center of the platform.

An oil platform like Pompano drills new wells some of the time, but it produces oil from existing wells all of the time. Pompano thus conjoins two worlds, one atop the other. Below, always in shadow, is the production deck, which collects and processes 40,000 barrels a day: enough to power America for about three minutes. Twenty-six wellheads pour roaring streams of oil and gas, at pressures as high as 1,300 pounds per square inch, through intestinal tangles of pipes and manifolds and on into a series of tanks and processors that remove water for reinjection into the ground, clean up the oil, and dry the gas. When the hydrocarbons have passed through this digestive system, they are pumped into a subsea pipeline for the journey to refineries back on shore. Pompano processes oil constantly and, as it were, in its sleep, with a production crew of about a dozen. Barring the odd mechanical failure or hurricane, one day in the control room is much like another. All eyes, typically, are on the upper deck, where the drillers work.

Drilling awakens Pompano. The place becomes a swarm of roustabouts and floor hands and mud loggers and perforating teams and completion engineers and geologists and galley hands and medics—at times as many as a hundred people on a surface measuring 230 by 128 feet. They work and sleep in tiny offices and tinier bunks in a prefabricated building where air-conditioning, television, foosball, and a bench press more or less exhaust the amenities. Lunch was beans, rice, cabbage, and sweet potatoes. The office windows, I noticed, looked not outward to the sea but inward, toward the objects of everyone's attention: the drill floor and the derrick.

It must be said that an oil derrick is one of the more majestic artifacts of industrial capitalism. The earliest ones were wooden, but today they are steel lattices that look like the frames of unfinished skyscrapers. Pompano's rises 170 feet above the drill floor. On the monkey board, high in the derrick, a roustabout maneuvers each new 100-foot section of pipe into position below the traveling block and the top drive; floor hands screw this section to its predecessor; and then the driller

sets the top drive spinning, engages the draw works, and commences to stuff the rotating pipe into the earth. Drilling out here costs \$100,000 a day, and the work goes on around the clock. On a good day the pipe descends continuously.

This was not a good day. The drillers had hoped to reach their objective that morning, but something downhole had chewed up two mud motors in succession, and now a seal just above the blowout preventer had sprung a leak. On the drill floor seven roustabouts and the driller were using wrenches and sledgehammers to loosen heavy bolts on the diverter housing. I had no trouble seeing how a roustabout might lose a fingertip. It was a bright, hot afternoon, and the derrick offered no shade; the men on the drill floor were soaked with sweat and spattered with drilling mud. I was standing off to one side, in shade behind the driller's cage, not lifting a finger, and I felt a stream of sweat under my hard hat become a small river behind my right ear. Just about then I heard myself thinking, *Silicon Valley this ain't.*

Yet, in some respects, Silicon Valley this is. The Pompano crews were drilling a well named Margarita, and Margarita was a computer's brainchild. Geologists could not have found this prospect with the computer technology available even four or five years ago, and drillers could not have drilled it as efficiently with the technology available then. Margarita's objective lies under salt, as does much of the oil in the Gulf of Mexico. People in the oil business have been striving to master the salt for years. Learn to see through salt, and then to drill through it

quickly and accurately, and you open new reserves, potentially large ones.

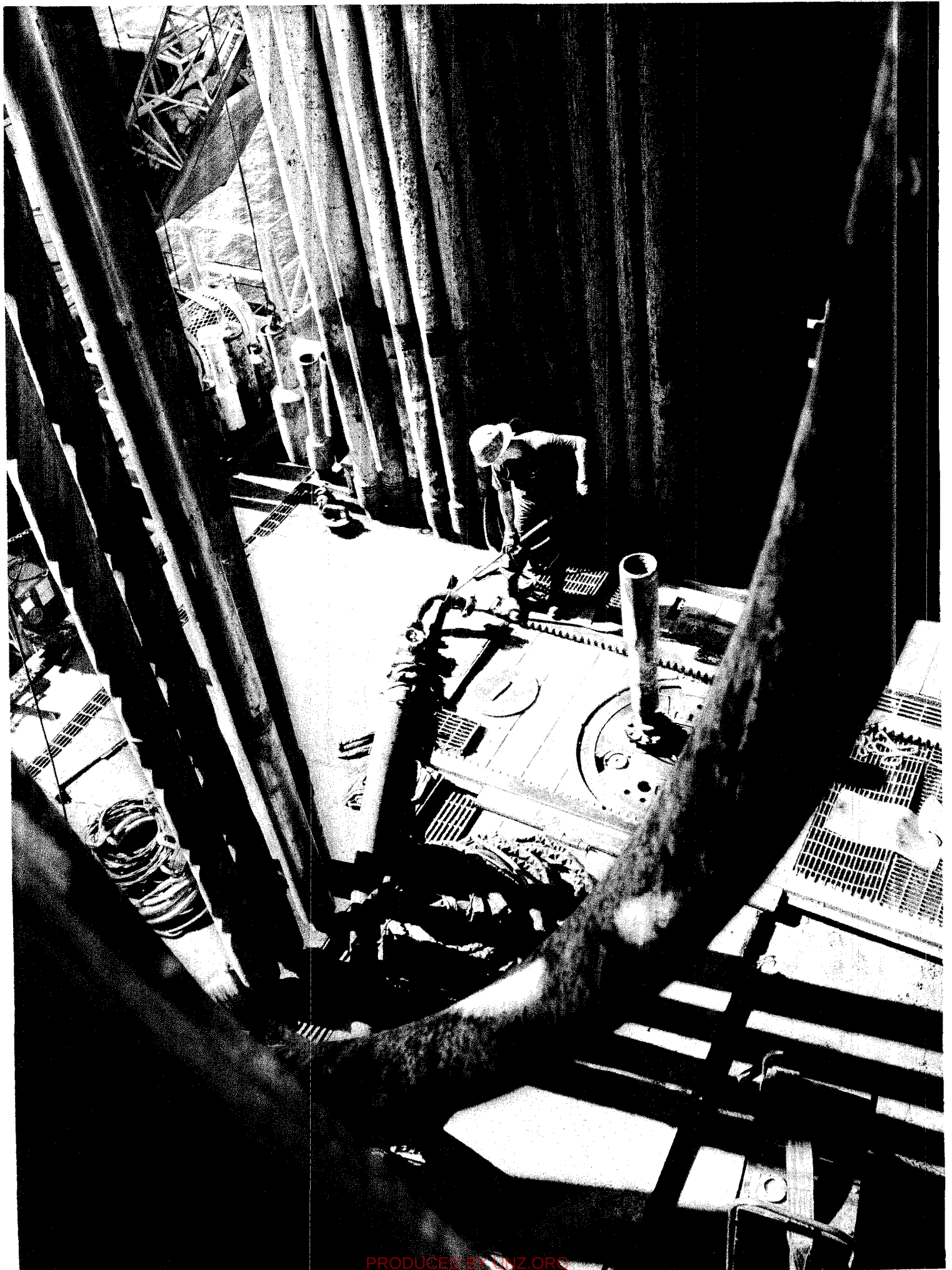
"There's salt in the North Sea, there's salt off Africa, there's salt off Brazil," Doug Stauber told me as we left Pompano later that day. Stauber is one of BP's geologists, and Margarita is his project. The series of mechanical failures meant it would be at least another few days before he knew whether Margarita would succeed. But Stauber betrayed no anxiety. In general, geologists lack the natural demonstrativeness of, say, tax accountants and insurance adjusters, and Stauber's only emotional display had been when he went down to the production deck to give affectionate pats to two of his favorite wellheads—"my good wells," he called them.

The photographs accompanying this article depict an oil platform in the Gulf of Mexico, off the coast of Louisiana; the Magic Earth facility, in Houston; and the Giddings oil field, in East Texas.





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In his fifteen years in the oil business Stauber had worked on fifty or so wells, including many of the wells at Pompano. I ventured that Margarita must seem routine. Oh, no, he said. "It's got all my attention."

THE NEW OLD ECONOMY

IN a speech last May, Treasury Secretary Lawrence H. Summers, who is an economist of distinction, reflected on what people are calling the New Economy. The notion is "both palpable and amorphous—more often declared than defined," he said. "But if there is one fundamental change at its heart, it must be the move from an economy based on the production of physical goods to an economy based on the production and application of knowledge."

The New Economy, Summers said, seems to behave differently from the old industrial and agrarian models. "Consider the classic Smithian model of wheat: when prices rise, farmers produce more, consumers buy less, and equilibrium is restored at a lower level of demand." This, Summers said, is a "negative-feedback" economy—one that is bounded by near-term constraints of supply and demand. An analogy, he suggested, might be a thermostat, which will shut down the furnace when your house overheats.

"By contrast," Summers said, "the information economy will increasingly be a positive-feedback economy." In the traditional economy new technologies and products start out expensive and rare, and only gradually become cheap and common; think of refrigeration, the automobile, the long-distance call. In the New Economy additional capacity seems to become available so quickly and inexpensively (think of the microchip) that traditional supply constraints are almost trivial. "In such a world," Summers said, "the avalanche, rather than the thermostat, becomes the more attractive metaphor for economic policy."

If there is a New Economy, its effect might logically be to increase the country's capacity to produce goods without running up against shortages and thereby triggering inflationary pressures. In effect, the economy's speed limits would be raised. Sure enough, the economy produced higher growth in real output per worker, as well as lower unemployment, in the 1990s than in the 1970s or the 1980s, while keeping inflation at a substantially lower rate. That is cause for celebration, but it is also puzzling.

Economists agree that to the extent the economy has changed, "information technology"—the computer and its many offshoots—must have a good deal to do with it. In the three decades since 1970 the power of microprocessors increased by a factor of 7,000. Computing chores that took a week in the early 1970s now take a minute. According to the

Federal Reserve Bank of Dallas, the cost of storing one megabit of information, or enough for a 320-page book, fell from more than \$5,000 in 1975 to seventeen cents in 1999. All well and good. But the computer revolution has been going on for years, whereas the economy's turbocharge came only in the second half of the 1990s. Why?

The Internet might seem to be a reasonable answer, and no doubt it has helped. However, according to Robert E. Litan, the director of economic studies at the Brookings Institution, in Washington, D.C., the Internet is still much too small a factor in America's \$10 trillion economy to account for the productivity surge. Nor, economists say (though this point is disputed), is the New Economy proper—the software, hardware, and dot-com sectors—large enough to have brought about more than part of the surge. Something else is at work, but what? It is not crazy to suspect what I think of as the New Old Economy.

Although at this point no one can prove anything, a story that seems plausible to many economists and business executives goes like this: In the 1980s Old Economy businesses tended to waste much of what they spent on computers and software. Companies in traditional industries would drop a PC on every desk and declare themselves computerized; they

would buy spreadsheet programs and word-processing software and networking equipment that as often as not just substituted new frustrations for old ones. This began to change, however, as software and hardware grew

in power, and as companies began learning how to use them not just as conveniences or crutches but to change the nature of the job. At first the impact, like a misty drizzle, was too small to show up in the national economic statistics. However, each innovation enabled other innovations, none of them revolutionary but all of them combining in an accelerating cascade. By the second half of the 1990s the aggregate effect on productivity became large enough to register in the national accounts, and the line between the New Economy and the Old Economy began to blur. That is the story of the New Old Economy.

As I say, nothing can be proved, at least not yet. But oil is about as old as modern industries come. If John D. Rockefeller, who lived from 1839 to 1937, rose from the dead today, he would probably need to struggle to get his mind around the Internet. But if you flew him out to Pompano and let him squint up at the derrick, he would know immediately what was going on. Finding and producing oil is still about poking holes in the ground and bottling what comes out, and in most people's minds it has long epitomized dirty industry and the reality of limits to growth. In a number of respects, however, the oil business has begun to behave more like the New Economy than the Old. It is in the midst of the sort of technologi-

OWING TO INFORMATION TECHNOLOGY, THE LINE BETWEEN THE NEW ECONOMY AND THE OLD ECONOMY HAS BEGUN TO BLUR.

cal change that Summers compared to an avalanche; and the bang that started the avalanche came not from the oil fields but from Silicon Valley.

MAGIC EARTH

THE petroleum industry and the computer have been closely connected for many decades—since the years when a computer was a human being calculating as fast as he could. Along with the space program and a few other endeavors, the oil industry has been elemental in driving computing technology forward, because petroleum geologists' appetite for processing power is insatiable. It is no accident that Texas Instruments, one of the pioneers in the computer business, was born in 1930 as Geophysical Service, a company that provided seismographic data to the oil industry.

There is nothing new about seismic imaging. The basic technology is not particularly complicated. Oil lies deep underground, trapped in the pores of rock at enormous pressures, and rock is a good conductor of sound. Knowing how fast sound travels, geologists can set off booms or pings and then analyze the returning echoes to infer the nature and location of the surface that has reflected them. Submariners have used this trick for decades; bats have used it forever. By the 1930s seismic imaging had established itself as a central technology in the oil business. Geologists would set off a boom and use mirrors to project the resulting vibrations onto photographic paper. Today the surveys use geophones wired to digital recorders, but the principle is the same.

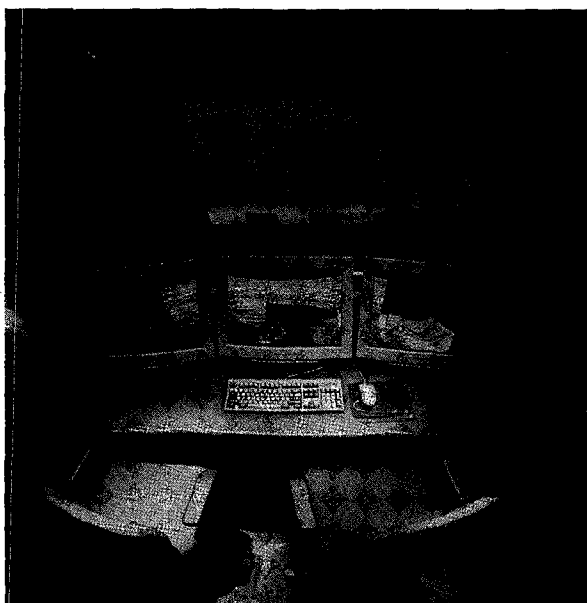
For many years the most that computers could handle was two-dimensional imaging, which showed vertical cross sections of rock. Even 2-D created no small headache for computers. In a typical smallish 2-D survey of twenty or thirty square miles, engineers would lay out a line of hundreds or thousands of geophones and set off a bang. Then they would record the echoes, move the geophones or the sound source, and bang again. (At sea the detectors would be dragged behind boats that detonated air-gun booms every ten seconds or so.) The process would generate several million echo traces—but such traces by themselves tell nothing about the structure of the earth. All the rest must be done by mathematical inference. The computer's job is to construct the mathematical model of the underground structures that seems most consistent with those millions of echoes; each echo must be disassembled into thousands of milliseconds, and each millisecond must be com-

pared with many others and analyzed in several different ways before any sort of picture begins to emerge. With 2-D the picture was crude and, of course, two-dimensional.

Geologists long yearned for three-dimensional imaging, which would let them look inside the earth from any angle, but the computing requirements were staggering. With 3-D the number of possibilities that the computer needs to sort through increases by orders of magnitude. Even a small 3-D survey might easily generate 200 gigabytes of data, and all the data points would then need to be analyzed from every direction simultaneously. In 1975, 3-D seismic imaging came into its first commercial use, but it was too slow and expensive to do anyone much good.

That is what the processing revolution changed. From 1985 to 1995 the computing time needed to process a square kilometer's worth of data fell from 800 minutes to ten minutes. From 1980 to 1990 the cost of analyzing a fifty-square-mile survey fell from \$8 million to \$1 million. Now it is more like \$90,000.

In 1989, according to the U. S. Department of Energy, only five percent of the wells drilled in the Gulf of Mexico made use of 3-D seismic data; by 1996 the figure was 80 percent, and the surveys themselves were more sophisticated. Today that smallish twenty- or thirty-square-mile survey might easily involve 25,000 geophones, 2,000 echo traces per shot, and 30,000 shots—a total of more than half a million floppy disks' worth of data, or more than 800 gigabytes, of which each byte



must be compared and reconciled with thousands or millions of others. Over the past decade seismic analysis has increased its data-gathering and data-processing requirements by an order of magnitude every five years, and no end is in sight. Schlumberger, a big oil-technology company, recently announced a higher-resolution technology, called Q, that gathers several times as much data as anything before and pushes computers proportionately harder.

The easiest way to appreciate the results is to go look at them. A good place to do that is at Magic Earth, in Houston. Magic Earth is what is known as a 3-D seismic visualization facility, one of many that have appeared in the past three years. "Engineers sit in front of this," Michael Zeitlin, Magic Earth's president and CEO, told me one day last spring when I stopped by for a demonstration, "and have an *emotional* response."

Zeitlin has been in the oil business for twenty of his forty-two years. He is originally from New York City, but his manner is all West Coast. We were sitting in a glass cube of a

building, in whose center stood a twenty-five-foot-high metal pod, like a shiny mushroom cap. Zeitlin talked with the rat-a-tat energy of an entertainment-industry executive, which he could almost be. Hollywood uses digital imaging and supercomputers to bring dinosaurs and typhoons and starships to life; Zeitlin does the same thing for structures deep in the planet, structures that will never be seen by any human eye.

Vision, Zeitlin explained, requires a great deal of bandwidth. To generate the illusion of motion requires fifteen to twenty frames a second. In the 1980s geologists' computers couldn't calculate that fast; in the 1990s they closed the gap, and then some. High-end computers can now take terabytes of seismic data and create vividly colored three-dimensional images of them; and they can generate those images at a rate of up to sixty a second—fast enough to fool the brain into thinking that it is panning through the interior of the planet, seeing formations that are miles underground in much the same way one might see the Grand Canyon from a moving helicopter.

Zeitlin showed me into the pod. On the way to the viewing room we passed the brains of the place, a Silicon Graphics mainframe. At the front of the pod was a large curved screen, eight feet high, twenty-five feet wide, and wrapping 160 degrees, to envelop the viewer.

In front of the screen was a conference table, where I took a seat. Behind me was a technician running the computer.

Zeitlin began with some familiar images: a Flintstones car, which we viewed from every angle, and the Matterhorn, which the "camera" (really the computer, manipulating its banks of data to create the image in real time) flew around at the command of a mouse. And then we were underground, about 6,000 feet below West Texas, and the image before me was a translucent cube of planet, colored to show the geologic features of the subterranean landscape. Zeitlin pointed to a blue patch that meandered like a river. It was an ancient channel, he said, cut eons ago and long since buried beneath a mile of sediment. He gave me the mouse, and I found myself clumsily rotating the image, viewing it from above and below and then moving inside it. You can put on 3-D goggles and the image on-screen becomes fully three-dimensional, springing to life like a hologram. You can peel the earth in layers a few dozen feet thick to reveal horizon after horizon of primeval topography. With a mouse you can draw a virtual oil well into the picture, so as to "see" the well long before it is drilled. At certain other visualization facilities the images are projected on the walls and floor and ceiling of the viewing room; wearing 3-D goggles, you can walk through the interior of a formation, as if through a cave.

So compelling is the illusion created by visualization technology that I had to forcibly remind myself that none of it is

either real or even a photographic image of anything real. It is all mathematics—models of the earth built by computers from echoes and algorithms. One forgets, too, that the sci-fi wizardry of a place like Magic Earth is not the computer's most impressive feat in the remaking of the oil business.

That feat occurs in, among other places, an almost bare room in Houston, not far from Magic Earth, where a business called Newfield Exploration Company has its offices. Newfield is a fairly typical independent oil company. It was founded in 1989 and is capitalized at \$2 billion, with revenues of \$400 million, which makes it substantial for an independent but much smaller than the majors. It specializes in buying properties that the majors no longer regard as profitable and finding—as Gary Packer, one of the company's petroleum engineers, puts it—"new fields within old fields." The company is able to do this by buying 3-D seismic data and poring over it, looking for meat that the majors left on the bones.

I asked to see where the magic happens, half expecting to see more supercomputers and giant curved screens. I was led down an unadorned hallway to a room containing a light table, two large-screen monitors, and two middle-aged men in white shirts and ties. Tom Adams is a geologist, and Eric Freeman is a geophysicist, and they were prospecting for oil in Texas. The

monitors buzzed with zebra-stripe patterns. Colored lines showed faults, and here, the men said, pointing, was a "bright spot"—a place likely to harbor hydrocarbons. Newfield was using off-the-shelf desktop software that was

not remotely as powerful as the proprietary program that runs Magic Earth's supercomputer-driven light show. Still, the software allowed Adams and Freeman to examine in detail nearly any small cube of planet they chose, with a wait of only six seconds to bring a landscape to the screen.

I asked to see the computer. It appeared to be a perfectly ordinary PC. It was souped up a little (extra memory and the like), at a cost of maybe \$10,000, plus about \$30,000 for the software. But its brain was a standard Pentium III chip running Windows NT. What supercomputers could not do a decade ago this dime-store computer does under someone's desk. You can buy the technology to peer inside the earth for less than the price of some new cars.

MARGARITA

DURING the Miocene and Pliocene epochs, from about 24 million years ago to about two million years ago, sediments flowed down from the plains and highlands of what is now North America and fell into what is now the Gulf of Mexico. The sediments—so Doug Stauber explained one day, as we drove south from New Orleans, past pumpjacks and sulfurous refineries, on our way to Pompano—were rich

with organic material. Under immense pressure deep underground the organic material cooked to become oil, which, being lighter than the surrounding rock and water, tended to flow upward until it met some obstacle—a geologic seal. There it would gradually collect, forming an oil reservoir.

BP built Pompano, in 1994, as a base from which to find and then produce this oil. The platform stands near the edge of the Gulf of Mexico's continental shelf. To the north lies an expanse of relatively shallow water. To the south the seabed drops off sharply into the abyssal plain, where ultra-deep exploration goes on. The territory around Pompano has seen a lot of exploration. Still, Stauber and BP's other geologists in Houston wondered how much oil lay untouched, obscured by salt.

By 1999 the geologists had done enough drilling and seismic surveying to know that much of the rock near Pompano lay beneath salt formations. Underground, salt behaves like a slow-flowing fluid, assuming all sorts of strange shapes; and because it is a hard crystal, sound waves travel very quickly through it. It thus distorts and blurs seismic images, much as a pane of frosted glass obscures the view through a window.

"When we planned the field and did the first drilling," Stauber said, recalling the early and middle 1990s, "we didn't have the technology to make it possible for us to see past the salt with enough confidence to drill." They had taken stabs at drilling through the salt around Pompano, but they had come up dry. "The image basically vanished beneath the salt," Stauber said. "We had hints about the shape of the salt, but nothing underneath it. It was a big volume of blank."

As computers grow faster, they can run more-intricate algorithms, which gradually improve geologists' ability to infer what it is that salt obscures. By 1999 BP's people thought they had a shot at peering through the salt around Pompano. In June of that year the geologists and seismic analysts began the tedious job of re-analyzing masses of raw seismic data going back to 1991, hoping to tease out details that had previously been invisible. Scouring the 180 or so square miles around Pompano required six months, which gives you some idea of the magnitude of the computational tasks involved. The following January, when the results came back, one spot stood out.

It lay about 10,000 feet underground, beneath an overhang of salt, nestled there like a cove at the base of a protruding cliff. It appeared to be a structural trap: a rock formation bent so that oil, if present, could flow in only one direction until it hit an upper seal of salt. Moreover, the image showed what the geologists called a bright spot, a change in the seismic echo's amplitude that suggested either sands through which oil flows easily or oil itself. The geologists decided to drill. Someone on the exploration team suggested calling the hole

Macarena, to go with another called Mambo, but a completion engineer suggested Margarita, and the name stuck. Margarita appeared to have two possible pay zones, at different depths. Steering through the salt and then penetrating both zones with a single well would require directional drilling.

NEW DIRECTIONS

ON a flight to an oil-and-gas trade show last spring I found myself in conversation with the president of a South Carolina company that specializes in laying underground fiber-optic cable. He pulled a binder from his carry-on and opened it to show me pictures of his drilling rigs: machines, he said, that could stand on one side of a wide river and drill right under it, laying cable a mile or two in any direction. "Sort of like what the oil rigs do nowadays," I ventured. He shook his head and said he thought not. Actually, he said, the oil people park their rigs right over their targets and bore straight down.

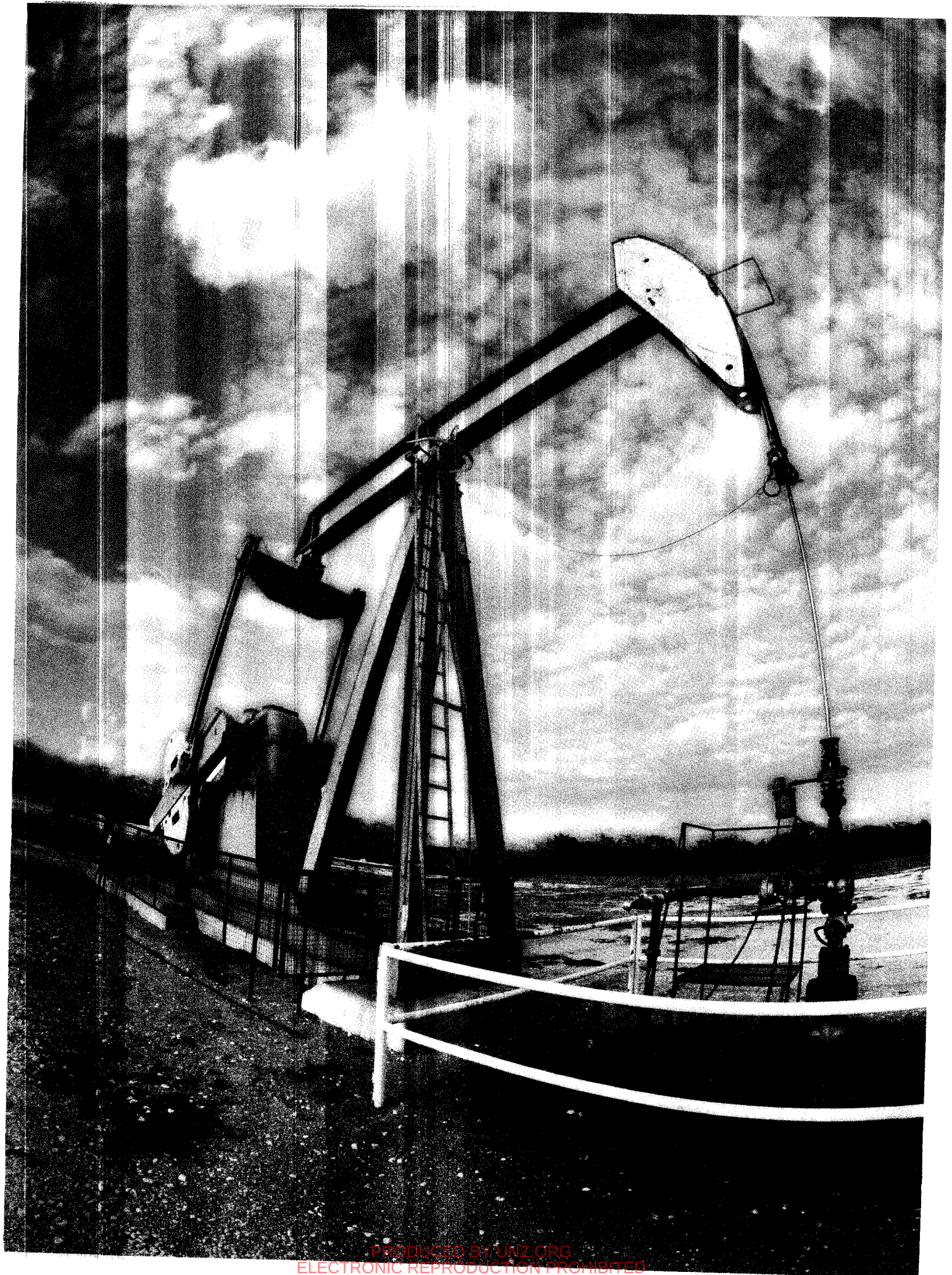
Most lay people probably suppose as he supposed, and, indeed, a lot of vertical drilling still goes on. But by the mid-1990s many wells, more than 2,700 a year, were directional. Many of the wells in Texas, for example, are directional, and so are many of the wells offshore.

A directional well can run in any direction, though horizontal is most common. It can approach a reservoir from whichever angle geologists deem most promising.

It can twist and turn to cut through any number of reservoirs. Engineers in Brunei recently drilled a U, first downward and then horizontally for a production well, and then back up 800 feet at a 167-degree angle, almost vertically, to do some additional exploration, so as to avoid drilling a separate exploration well. As recently as a decade ago a half-mile horizontal reach was considered an accomplishment. By 1997 engineers in the South China Sea could drill a well for Phillips Petroleum that bored 10,000 feet below the surface and stretched five miles horizontally, thus tapping a previously inaccessible offshore field. If oil were discovered beneath, say, Washington, D.C., a rig could be planted on the White House lawn to suck out all the oil in the metropolitan area, much as a mosquito with a flexible fifty-foot proboscis might sit in the middle of a subway car and bite all the passengers. The upshot has been to bring forth new fields amid old fields, and new wells within old wells.

Seventy miles northwest of Houston, in gently rolling farm country that cattle and corn and sorghum and cotton share with wellheads and pumpjacks, lies the Giddings oil field. I drove to Giddings one bright, warm day in early summer to see a crew drilling—or, more precisely, re-drilling—the Bush-Bush well, so called because it both begins and ends on prop-

THE GROWING INGENUITY OF HUMAN BEINGS IS OUTPACING THE EARTH'S GROWING RELUCTANCE TO RELINQUISH ITS TREASURE.



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erty leased from people (nonpresidential people) named Bush. Bush-Bush is one of many re-entry wells that have been drilled in Texas by Union Pacific Resources, an independent oil company that spun off some years ago from the Union Pacific railroad's parent company and made a name for itself with virtuoso horizontal drilling. (The company recently merged with another independent, Anadarko Petroleum.)

Interstate had turned into state highway, and state highway into farm road and dirt road, when the Bush-Bush rig appeared in the distance, a 150-foot derrick creating the nearest semblance of a skyline to be seen among the pecan groves and fields of young cotton. Up close, Patterson Drilling Company's "Mighty Rig No. 11" looked much as rigs in Texas have looked for decades; it was probably not at all different from the rig that drilled this well the first time around, in 1992. Bush-Bush is on its second life, possibly headed for a third—as is, for that matter, the whole Giddings field.

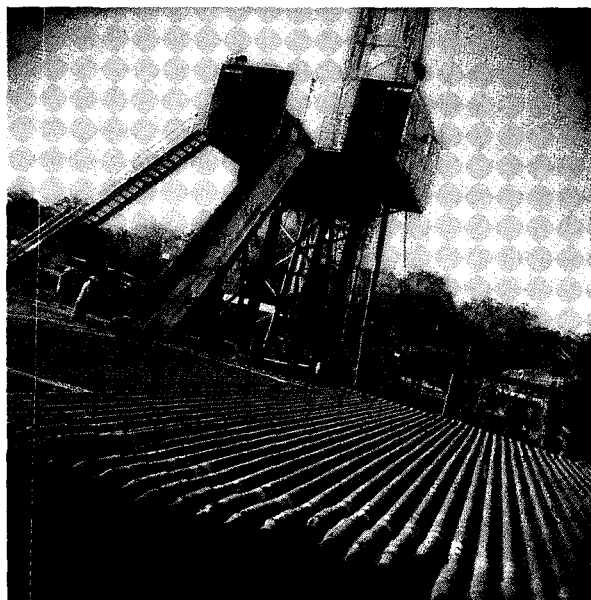
Giddings lies above a limestone formation known as the Austin Chalk Trend, which sweeps across southern Texas (through Austin) and Louisiana. The Austin Chalk is a tough, mercurial formation, full of oil and gas but inclined to give them up only reluctantly and sporadically. "Heartbreak Field" some people used to call the Chalk, and Giddings produced only thimblefuls of oil until the early 1970s. Then the OPEC embargo struck, the price of oil shot up, and people began drilling like crazy, assuming that oil prices would never come down and that the good holes would pay for the bad ones. "We drilled all the smart things and half the dumb things," Nathan Meehan, Union Pacific's general manager of technology, told me.

The vertical wells, when they hit, started out strong, but soon their flow dropped sharply. Then came horizontal drilling, and an insight. The oil in the Austin Chalk lay in thin horizontal or gently inclined strata. The strata were marbled with tiny vertical cracks, through which oil could flow from the surrounding impermeable rock. That was why vertical wells struck oil so capriciously and lost pressure so fast: if you were lucky enough to drill down along a crack, you got oil, but the crack soon drained.

In 1987 Union Pacific tried its first horizontal well in the Chalk. That well became known as "Wrong-Way Loehr" and is remembered, not altogether fondly, as a learning experience. The next attempt worked better, and in 1990 Union Pacific felt confident enough to establish a twenty-person horizontal-drilling team. The trick was to find an oil-bearing

stratum and nose the drill bit along it, taking care to stay within the pay zone's narrow and often irregular boundaries. The horizontal well would act like a channel connecting all the vertical cracks. "It was the equivalent of adding together eight or ten of these vertical wells," Meehan said. Moreover, the team could drill a new horizontal well under an old one and hit oil all over again.

Bush-Bush was one of the early Giddings horizontals, but it had played out after producing perhaps 200,000 barrels—maybe five times what a typical vertical well might have produced. When I appeared on the scene, Union Pacific was drilling a second horizontal well about 500 feet deeper than the first: a new well within an old well. The driller had re-entered the old well and bored down about 9,000 feet, and now was branching off horizontally to run more than a mile to the north. Meanwhile, the gas flare, which burns off waste methane from downhole, was showing a wisp of black smoke: a good sign of oil.



Directional-drilling technology, like seismic imaging, was not new in the late 1980s, when Union Pacific and others began exploiting its possibilities. Rockefeller himself died only two years shy of seeing the first horizontal hole, in 1939. Still, until the late 1980s the use of directional drilling for horizontal wells was negligible. And then something happened. In 1989 a horizontal well could replace, on average, anywhere from two to five vertical wells, but at a cost four to eight times as high. Quite suddenly the balance tipped, and by 1993 the cost premium

to drill horizontally had fallen to a factor of two or less, but the productivity advantage remained. The effect was to bring all kinds of previously inaccessible or uneconomical reserves within reach.

What happened in those years typifies change in the New Old Economy. There was no quantum technological leap, no blinding breakthrough. Instead a suite of interlocking technologies improved incrementally, but to revolutionary effect. One of those technologies was 3-D seismic imaging. It was not much good, after all, for people to spend a lot of money drilling fancy trajectories if they did not know where they wanted to go or whether they would find oil once they got there. By the late 1980s 3-D seismic imaging was revealing targets accurately enough to make directional drilling worth considering. Just as important, however, was the parallel emergence of what in the oil business is known as measurement-while-drilling.

If you think about pushing several miles of pipe into the

ground behind a drill bit, it may occur to you that after you get a few hundred feet, you are likely to have some difficulty knowing precisely where your bit is. Not so long ago a driller would point his bit in the indicated direction, bore a few hundred feet, and stop. Then he would push an instrument downhole that amounted to a camera that took a picture of a compass, and then he would pull the instrument out and check his location. Each survey could mean halting drilling for hours at a stretch, and the results were approximate.

Measurement-while-drilling appeared on the scene around twenty years ago. Behind the drill bit rode one or more instruments that kept track of the bit's location and reported back to the surface. Engineers then added a series of sensors to tell drillers and geologists what sort of conditions the bit was encountering as it moved forward; the sensors' capabilities and sophistication have grown by the month. Then the devices acquired brains that allowed them to process data downhole. A high-end downhole tool today may carry the equivalent of three Pentium PCs of processing power—this spinning in high-pressure muck behind a drill bit any number of miles underground in a tunnel of rock at a temperature of, often, 300° or higher.

A few years ago engineers at a rig site would collect the drilling data, known as the logs, and periodically fax it into town. "And someone in the geophysical department would have to review the log and say, 'Oh, yeah, I think there's oil there,'" Ray Newton, of Baker Hughes, an oil-technology company, told me. The process ate up expensive time. Now Baker Hughes and some of its competitors link the log to the Internet. "The rig site becomes a server," Newton said. Geologists and executives in the home office can click on their Web browsers and see what the driller is seeing somewhere in the Gulf of Mexico, or in Prudhoe Bay, or in the North Sea. They can plug into the rig from laptops at the airport. They can instruct the rig to let them know by e-mail or pager when the hole reaches 20,000 feet, or when resistivity suggests oil, or when anything else of interest happens. Rigs recently began talking to Palm Pilots.

Although it would be correct to say that the modern rig and bottom-hole assembly are a drill with a computer attached, it would probably be more accurate to call them a computer with a drill attached. It is not hard to imagine instruments, programmed with seismic data and loaded with sensors, that could sniff their way to oil. No one I talked to thought that robot rigs and robot wells are far off.

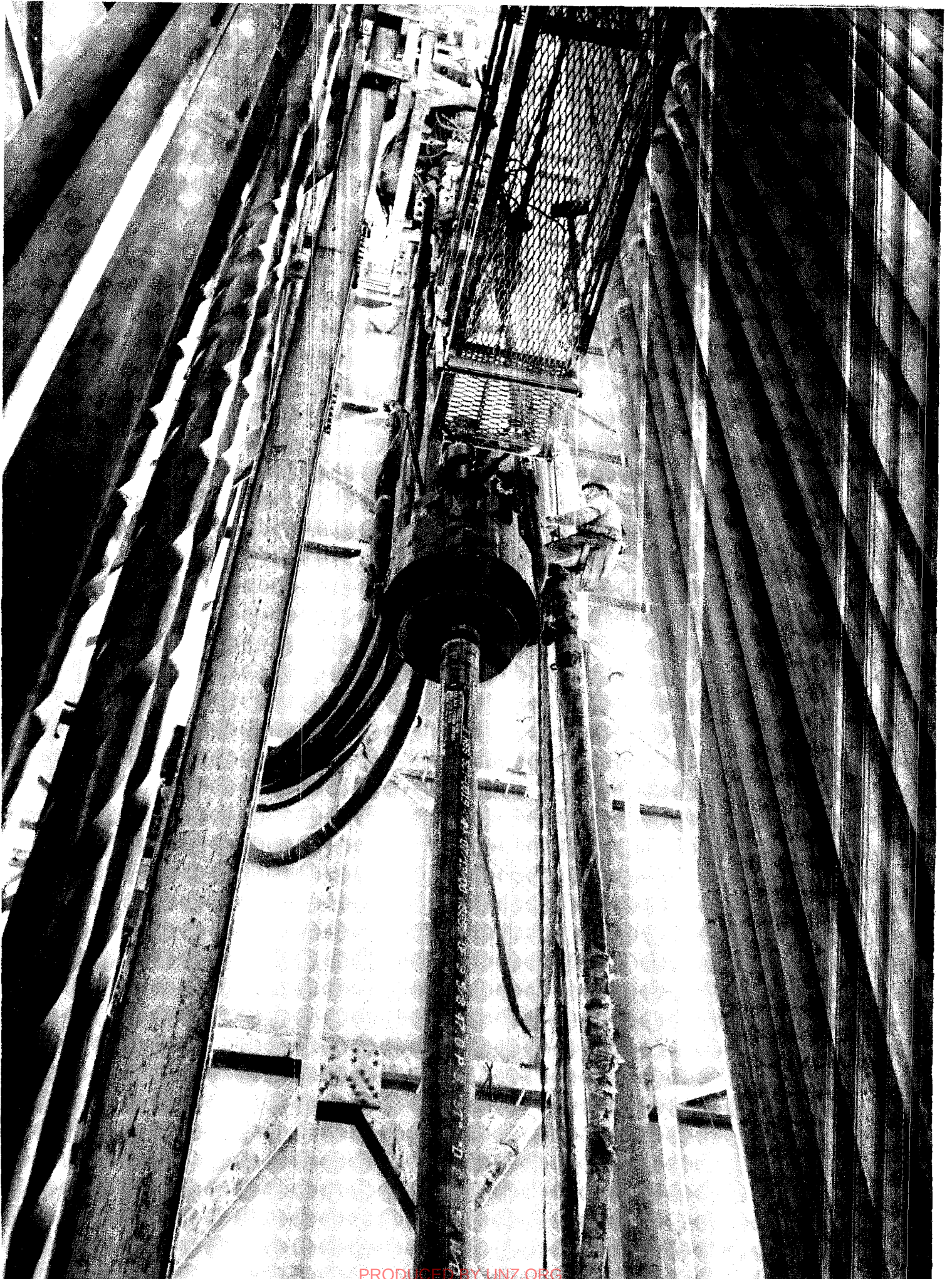
To view these technological developments as a series of coincidences is to miss the story. Measurement-while-drilling, directional drilling, and 3-D seismic imaging not only developed simultaneously but also developed one another. That is, improvements in each increased the payoff for improving the others. Higher-resolution seismic imaging increased the payoff for accurate drilling, and so companies scrambled to invest in high-tech downhole sensors; powerful sensors, in turn, increased yields and hence the payoff for expensive directional drilling; and faster, cheaper directional drilling increased the payoff for still higher resolution from 3-D seismic imaging. None of the technologies was anything like new when, collectively, they took off. What was new was the way in which they energized one another, and then chased one another upward in a virtuous spiral. The result has been to create the feeling that technological time is accelerating—and it is.



MARGARITA

DRILLING began on Margarita last June. BP's people decided to attempt two innovations. For one thing, they hoped simply to see the reservoirs, obscured as they were beneath an overhang of salt. For another, they planned to use a tool that they hoped would allow them to bore through salt as quickly as through sediment.

Margarita's finished length, from drill floor to end point, would be more than three miles. The well would stretch about 11,000 feet almost due east of Pompano, and its objective would be almost 10,000 feet underground. Of the three miles that the drill bit would traverse, about a third would be through salt. Staying on course in salt typically requires frequent fine-tuning of direction, and though such adjustments can be made much faster now with measurement-while-drilling, they still slow the process down. In Margarita's case, Doug Stauber told me, standard equipment would be able to drill through about twenty feet of salt an hour, versus perhaps a hundred feet an hour in sediment. As it happens, Baker Hughes in the late 1990s introduced a system, called Auto-Trak, that can adjust direction at full speed. Just behind the drill bit rides a programmable collar, from which sprout three rudderlike fins. Guided by computer (what else?), the fins bulge or retract to point the drill bit in any direction without slowing it down. Margarita's engineers thought that the tool might shave days off the schedule—which, at \$100,000 a day, would amount to more than lunch money. More important, if



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they could drill through salt as quickly and accurately as through sediment, subsalt exploration and development would move a step closer to being cheap and routine.

Sure enough, the drillers got through the salt in five days, instead of the ten to fourteen that would normally have been required. Once past the salt, they had to make a tight turn to set a course that would intersect both their target zones, each about 200 feet in diameter. With some effort they managed to hit both targets—but they did not find oil. They found water. This was more of the salt's treachery. Even under optimal conditions seismic imaging is imprecise, and salt presents anything but optimal conditions.

Stauber and his colleagues could tell, however, from the sensors' logs and from the cuttings that came back with the mud returns, that the hole had nipped oil for a few feet on the way down, just near the top of the upper target zone. The geologists thought they understood what had happened: the computer's maps had put the promising formations a few hundred feet lower than where they actually were. Stauber and the drillers decided to try sidetracking. They would pull back a few thousand feet to the edge of the salt and then make a sharper turn, cutting a new approach about 300 feet to the northwest of the first one. That ought to let them catch the sloping reservoir higher up, where water, they thought, should give way to oil.

EXPANDABLE EARTH

I CAME of age in the 1970s, the era of limits. In 1976, when I was on my high school's debating team, the national topic was "Resolved: that the development and allocation of scarce world resources should be controlled by an international organization." In 1977 the Carter Administration's National Energy Plan said,

The diagnosis of the U.S. energy crisis is quite simple: demand for energy is increasing, while supplies of oil and natural gas are diminishing. Unless the U.S. makes a timely adjustment before world oil becomes very scarce and expensive in the 1980s, the nation's economic security and the American way of life will be gravely endangered.

At the time of the first Earth Day, in 1970, an ecologist and zoologist named Kenneth E.F. Watt said, "We're going to be out of crude oil about the year 2000 or shortly thereafter. What happens then?" He spoke for the times, and to some extent for common sense, when he said, "We in fact live on a small round ball that logic dictates must have limited resources, yet we are proceeding to behave as if there were absolutely infinite resources. There aren't."

Sophisticated observers in those days knew better than to imagine that the oil spigots would suddenly run dry, but they expected that the price of oil would rise steadily, and probably sharply, as oil became scarcer and harder to reach. That was not a fringe view; it was good economics. Concern about oil

prices merged with a related point of conventional wisdom, which was that the economy could no longer expand without bumping into supply constraints, which cause dangerous inflationary pressures. So-called supply-siders of the right blamed the government's tax policies for creating bottlenecks, while intellectuals of the left said that the time had come to adjust public expectations downward; but all agreed that, for whatever reason, the economy's potential for non-inflationary growth had fallen below the level that obtained from the end of World War II to the late 1960s.

The New Economy hypothesis challenges the supply-constraint model and, in effect, inverts it. The notion is that in the Old Economy growing demand soon meets bottlenecks that take months or years to ease as companies invest in new capacity, or as technologists search for workarounds. In New Economy industries, in contrast, the marginal cost of additional capacity falls rapidly toward zero, because the product is informational rather than physical. The first megabyte of data storage, or the first megahertz of processing speed, or the first copy of a new spreadsheet program, is expensive, but before long the cost of one more megabyte or one more megahertz or one more copy is negligible. Production can be ramped up at very little additional cost. That is Larry Summers's avalanche.

Oil, of course, is not information. It is a finite resource that technically becomes more difficult to find with each barrel pumped. If any industry should behave according to the old rather than the new model, it is the oil industry. Yet several ostensible paradoxes suggest that it is not behaving that way at all.

For example, the world has burned about 820 billion barrels of oil since the first strike at Oil Creek, Pennsylvania, in 1859, and 600 billion of those barrels—almost three fourths of the total—have been burned since 1973. Yet the world's proven oil reserves are about half again as large today as they were in the 1970s, and more than ten times as large as in 1950. It is as if using up oil has somehow created more, although obviously that cannot be true.

A second paradox: Each decade produces fewer of the very large discoveries known in the industry as elephant fields. "No field with more than 27 billion barrels—one year of global consumption, at present rates—has been found anywhere since Safaniya, in Saudi Arabia, was discovered in 1951," Gregg Easterbrook wrote recently in *The New Republic*. Today, indeed, a find of merely one billion barrels is considered cause for rejoicing. Yet the average exploratory well yielded four times as much oil in 1998 as in 1980, according to the Energy Information Administration, with the big jump starting about ten years ago.

A third paradox: We know there is less oil in the ground every year. Other things being equal, that should make finding additional barrels more expensive every year. But finding costs have dropped sharply since the 1970s, even in the United States, a region that has been drilled practically to death. According to the Energy Department, the average cost of find-

ing new oil has fallen from \$12–\$16 a barrel in the 1970s and 1980s to \$4–\$8 today. (Oil prices have recently risen quite a bit, of course, but that is because of OPEC's machinations and turbulence in the Middle East. Finding and development costs give a much clearer picture of oil's real scarcity.)

If oil were truly and fully a part of the New Economy, its marginal finding and production costs would be falling toward zero. If oil were truly and fully a part of the Old Economy, its marginal costs would be rising toward unpleasantness. But since oil is part of the New Old Economy, its marginal finding and production costs are falling, though not toward zero—falling because of New Economy technological magic, though not toward zero because oil, unlike information, is a physical substance in limited supply.

Thus the reason the average new oil find grows larger even as the average new oil field grows smaller is that the industry is drilling fewer dry holes and extracting more oil from the new wells it drills. Exploration success rates grew from 23 percent in the 1970s to 29 percent in the 1990s. That increment sounds modest, but remember that explorers in the 1990s were shooting at much more difficult targets. Success rates could rise even as difficulty increased because improvements in seismic imaging gave geologists a much clearer shot—as if a new rifle scope enabled them to shoot targets at 1,000 yards that previously they couldn't hit at 500. Meanwhile, techniques such as directional drilling and enhanced recovery (in which water or gases or chemicals are injected into reservoirs to force out more oil) increased the yield per new well. Thus did the growing ingenuity of human beings outpace the earth's growing reluctance to relinquish its treasure.

It is certainly true that elephant fields are growing scarce. But that is increasingly beside the point. In the Old Economy model of resource extraction, if you needed more of some resource, you invaded and pillaged new reaches of the planet to get it. Every day, however, virgin resources grow scarcer and thus more expensive, while human ingenuity grows more plentiful. In the New Old Economy the cost advantage increasingly tips away from rapine and toward cleverer and more efficient exploitation of existing resources—which, after all, are already discovered, leased, and equipped with infrastructure. Thus forestry is becoming more like high-tech farming, as it moves away from the logging of virgin forest and toward the harvesting of intensively managed plantations, which can produce yields five to ten times as high. Sawmills

are starting to use x-rays and computers to scan logs and extract an average of 10 percent more usable wood from them. The U.S. copper industry was saved from near extinction in the 1970s and early 1980s by, among other things, rapid advances in a process called solvent extraction–electrowinning, which uses chemicals rather than smelters to draw new copper from old mines and also—no less important—from the heaps of waste left behind by old mines. Nowadays almost half of all American steel is produced by so-called minimills, not from ore but from scrap metal, such as junked cars and appliances, construction debris, and so on. In the New Old Economy, intensity displaces extensivity.

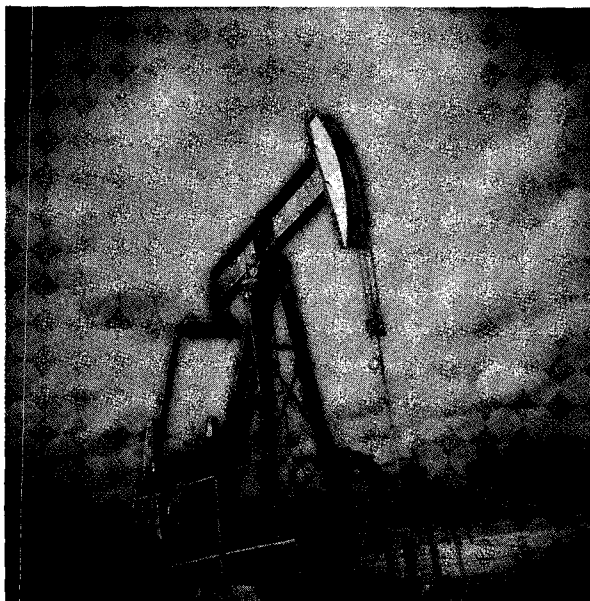
Oil is no exception. "Despite the fact that the United States is the most mature hydrocarbon region in the world," the Energy Department reported last year, "11 percent of all the petroleum reserves ever added in the United States (since 1859) have been added in just the last eight years." And where is all this new oil

coming from? Fully 89 percent, the department says, is from old fields. William L. Fisher, a prominent petroleum geologist at the University of Texas at Austin, has found that in theory about 70 percent of the oil in an average reservoir should be recoverable; at present the average well actually drains about half that amount, and often a good deal less. "What we now understand," Fisher told me recently, "is that owing to the complexities of reservoirs, there's a lot of oil unrecovered in existing reservoirs."

In the past an oil well was disposable, like a drinking straw: drillers stuck it in, sucked out

the oil, and then threw it away. Nowadays, in deep water and other environments where drilling is expensive, oil companies are beginning to view wells as being less like straws and more like roads, to be used and reused as new sections of reservoir are opened up and as old sections are redeveloped with new technologies. "When I started, twenty years ago," Mark Vella, a well-completion specialist with Schlumberger, told me, "if you left fifty million barrels behind because of bad practices, it was still commercial. Today you can't do that." Yesterday's scraps are today's meal. And the threshold at which scraps become meals drops all the time, because technology keeps creating new efficiencies.

So technologists are busy looking for a way to separate oil and gas from water downhole, in the well itself, rather than expensively pumping water to the surface only to extract it and pump it back down again. No one doubts that this grail will soon be found. Meanwhile, researchers at Los Alamos National Laboratory have designed a "microdrilling" appara-



tus that replaces heavy rigs and skyscraper derricks with a coiled-tubing system that can be towed around on a tandem trailer behind a large pickup truck. And although it took oil engineers 129 years, until 1988, to learn how to drill for oil profitably in a quarter mile of water, it took them only another nine years to reach one mile—a depth that by last year was considered boring.

Thus is the world I grew up in, the world of scarcity and constraint, stood on its head. “The end of the oil age,” says Julian West, a senior director at Cambridge Energy Research Associates, “is not going to come because we run out of barrels.” West is a good person to ask about the errors of the 1970s and 1980s. “I believe I was the first person to call the peak of UK North Sea production,” he told me in a telephone interview from his London office. “This was in 1981, and I called it for 1982.” And how, I wondered, did he do? “It hasn’t peaked yet.”

It may be as wrong to project today’s optimism into the future as it was to project yesterday’s gloom. “Forecasting with a pencil and a straightedge has had a very checkered track record,” West told me ruefully. But the most common view, and the one that I find most plausible, is that the demand for oil will peter out well before any serious crimp is felt in the supply. Something cheaper and cleaner, perhaps the hydrogen-based fuel cell, will come along, and the oil age will end with large amounts of oil left unwanted in the ground.

It is natural to think of oil the way a miser thinks of gold—as a limited physical resource whose price must rise or at least hold steady. But that is no longer a good way to think of oil, or of any other resource in the New Old Economy. Most people understand intuitively that the essential resource in Silicon Valley is not magnetic particles on floppy disks, or hard drives in servers, or lines of code or bits of data; it is human ingenuity. The oil business cannot be information-based to the extent that the software industry is, but increasingly it is dominated by the same principle. Knowledge, not petroleum, is becoming the critical resource in the oil business; and though the supply of oil is fixed, the supply of knowledge is boundless. In every sense except the one that is most literal and least important, the planet’s resource base is growing larger, not smaller. Every day the planet becomes less an object and more an idea.

MARGARITA

THE drillers on Pompano began sidetracking on July 18. The results came in on July 20. That evening the Margarita team was at an Astros game and had just settled in for the first pitch when the report arrived from the rig. The group spent the first inning looking over the data and the next three innings celebrating. “The sand”—that is, the oil-bearing sediment—“that we actually found in the well is better than we projected we’d find,” Rick Bartlett, one of Doug Stauber’s colleagues, told me a few days later. The large upper reservoir not only contained oil but would probably exceed expectations. The lower reservoir held a surprise: gas. How much,

and whether there might also be oil in the lower sands, were not immediately clear.

It took several weeks for the engineers to perforate the well liner, install screens to keep sand out, fracture the rock formation, install production tubing, and flush drilling mud and debris and completion fluids from the hole. On September 8 the engineers at Pompano opened the tap, and Margarita came on line. “Looks like it’s almost five thousand barrels a day now,” Stauber said, “and it will go up. For Pompano, that’s a pretty good well, and it’ll get better.” The engineers expected Margarita to yield something like six million barrels of new reserves, at the fairly modest cost of about \$13 million. That was all new oil from an old field; and at around two dollars a barrel, it cost less than half as much to find as the oil from the original Pompano development. Having succeeded with Margarita, the geologists would use the same techniques to go after more.

The great question about the surge in American productivity since 1996 is, Will it last, or is it simply a brief, blessed pop that will disappear forever when the next recession comes? That is essentially another way of asking whether the New Economy and the New Old Economy are real, or are just the Old Economy on adrenaline. In the oil business right now thousands of economists and executives and engineers are asking their own versions of the same question. The industry’s recent rapid productivity advances can be read in at least two ways. It may be that the computer-driven leap to 3-D seismic imaging in the late 1980s triggered a one-time series of follow-on innovations, like a string of firecrackers, which will end before long. Or it may be that the pace of innovation and adaptation has accelerated for good, thanks to the micro-processing miracle and to the oil industry’s rapid merger with the information economy. Either story may be true—or neither. No one will know for some years. But I can tell you how it feels to the drillers on the rigs and the geologists in the 3-D seismic-visualization environments and the engineers building computerized sensor systems that guide whirling drill bits in three-mile mud-filled pipes through hot rock. It feels as though something has changed and there is no going back.

After Margarita was finished, the drillers on Pompano turned to an exploration well called Subsalt. Not an evocative name, but informative. Margarita was 10,000 feet underground, but Subsalt was more like 20,000. Margarita was tucked under a salt overhang, but Subsalt was buried under the main body of salt. The underground salt structure acted as a sort of umbrella, casting a seismic shadow that obscured the formations beneath. Even with the latest seismic runs the image was blurry, and in patches there was no image at all. “There are still areas we can’t see,” Stauber told me. “But it’s a whole lot better than being able to see nothing, which is all we had until January.” The presence of a promising geologic trap, the geologists thought, could now be inferred with enough confidence to justify taking a shot. The drilling of Subsalt began on November 16. ❀

Why McDonald's Fries Taste So Good

by ERIC SCHLOSSER

*A trip to northern New Jersey,
the home of natural flavors*

THE french fry was “almost sacrosanct for me,” Ray Kroc, one of the founders of McDonald’s, wrote in his autobiography, “its preparation a ritual to be followed religiously.” During the chain’s early years french fries were made from scratch every day. Russet Burbank potatoes were peeled, cut into shoestrings, and fried in McDonald’s kitchens. As the chain expanded nationwide, in the mid-1960s, it sought to cut labor costs, reduce the number of suppliers, and ensure that its fries tasted the same at every restaurant. McDonald’s began switching to frozen french fries in 1966—and few customers noticed the difference. Nevertheless, the change had a profound effect on the nation’s agriculture and diet. A familiar food had been transformed into a highly processed industrial commodity. McDonald’s fries now come from huge manufacturing plants that can peel, slice, cook, and freeze two million pounds of potatoes a day. The rapid expansion of McDonald’s and the popularity of its low-cost, mass-produced fries changed the way Americans eat. In 1960 Americans consumed an average of about eighty-one pounds of fresh potatoes and four pounds of frozen french fries. In 2000 they consumed an average of about fifty pounds of fresh potatoes and thirty pounds of frozen fries. Today McDonald’s is the largest buyer of potatoes in the United States.

The taste of McDonald’s french fries played a crucial role in the chain’s success—fries are much more profitable than hamburgers—and was long praised by customers, competitors, and even food critics. James Beard loved McDonald’s fries. Their distinctive taste does not stem from the kind of potatoes that McDonald’s buys, the technology that processes them, or the restaurant equipment that fries them: other chains use Russet Burbanks, buy their french fries from the same large processing companies, and have similar fryers in their restaurant kitchens. The taste of a french fry is largely determined by the cooking oil. For decades McDonald’s cooked its french fries in a mixture of about seven percent cottonseed oil

and 93 percent beef tallow. The mixture gave the fries their unique flavor—and more saturated beef fat per ounce than a McDonald’s hamburger.

In 1990, amid a barrage of criticism over the amount of cholesterol in its fries, McDonald’s switched to pure vegetable oil. This presented the company with a challenge: how to make fries that subtly taste like beef without cooking them in beef tallow. A look at the ingredients in McDonald’s french fries suggests how the problem was solved. Toward the end of the list is a seemingly innocuous yet oddly mysterious phrase: “natural flavor.” That ingredient helps to explain not only why the fries taste so good but also why most fast food—indeed, most of the food Americans eat today—tastes the way it does.

Open your refrigerator, your freezer, your kitchen cupboards, and look at the labels on your food. You’ll find “natural flavor” or “artificial flavor” in just about every list of ingredients. The similarities between these two broad categories are far more significant than the differences. Both are man-made additives that give most processed food most of its taste. People usually buy a food item the first time because of its packaging or appearance. Taste usually determines whether they buy it again. About 90 percent of the money that Americans now spend on food goes to buy processed food. The canning, freezing, and dehydrating techniques used in processing destroy most of food’s flavor—and so a vast industry has arisen in the United States to make processed food palatable. Without this flavor industry today’s fast food would not exist. The names of the leading American fast-food chains and their best-selling menu items have become embedded in our popular culture and famous worldwide. But few people can name the companies that manufacture fast food’s taste.

The flavor industry is highly secretive. Its leading companies will not divulge the precise formulas of flavor compounds or the identities of clients. The secrecy is deemed es-



sential for protecting the reputations of beloved brands. The fast-food chains, understandably, would like the public to believe that the flavors of the food they sell somehow originate in their restaurant kitchens, not in distant factories run by other firms. A McDonald's french fry is one of countless foods whose flavor is just a component in a complex manufacturing process. The look and the taste of what we eat now are frequently deceiving—by design.

THE FLAVOR CORRIDOR

THE New Jersey Turnpike runs through the heart of the flavor industry, an industrial corridor dotted with refineries and chemical plants. International Flavors & Fragrances (IFF), the world's largest flavor company, has a manufacturing facility off Exit 8A in Dayton, New Jersey; Givaudan, the world's second-largest flavor company, has a plant in East Hanover. Haarmann & Reimer, the largest German flavor company, has a plant in Teterboro, as does Takasago, the largest Japanese flavor company. Flavor Dynamics has a plant in South Plainfield; Frutarom is in North Bergen; Elan Chemical is in Newark. Dozens of companies manufacture flavors in the corridor between Teaneck and South Brunswick. Altogether the area produces about two thirds of the flavor additives sold in the United States.

The IFF plant in Dayton is a huge pale-blue building with a modern office complex attached to the front. It sits in an industrial park, not far from a BASF plastics factory, a Jolly French Toast factory, and a plant that manufactures Liz Claiborne cosmetics. Dozens of tractor-trailers were parked at the IFF loading dock the afternoon I visited, and a thin cloud of steam floated from a roof vent. Before entering the plant, I signed a nondisclosure form, promising not to reveal the brand names of foods that contain IFF flavors. The place reminded me of Willy Wonka's chocolate factory. Wonderful smells drifted through the hallways, men and women in neat white lab coats cheerfully went about their work, and hundreds of little glass bottles sat on laboratory tables and shelves. The bottles contained powerful but fragile flavor chemicals, shielded from light by brown glass and round white caps shut tight. The long chemical names on the little white labels were as mystifying to me as medieval Latin. These odd-sounding things would be mixed and poured and turned into new substances, like magic potions.

I was not invited into the manufacturing areas of the IFF plant, where, it was thought, I might discover trade secrets. Instead I toured various laboratories and pilot kitchens, where the flavors of well-established brands are tested or adjusted, and where whole new flavors are created. IFF's snack-and-savory lab is responsible for the flavors of potato chips, corn chips, breads, crackers, breakfast cereals, and pet food. The confectionery lab devises flavors for ice cream, cookies, candies, toothpastes, mouthwashes, and antacids. Everywhere I looked, I saw famous, widely advertised products sitting on

laboratory desks and tables. The beverage lab was full of brightly colored liquids in clear bottles. It comes up with flavors for popular soft drinks, sports drinks, bottled teas, and wine coolers, for all-natural juice drinks, organic soy drinks, beers, and malt liquors. In one pilot kitchen I saw a dapper food technologist, a middle-aged man with an elegant tie beneath his crisp lab coat, carefully preparing a batch of cookies with white frosting and pink-and-white sprinkles. In another pilot kitchen I saw a pizza oven, a grill, a milk-shake machine, and a french fryer identical to those I'd seen at innumerable fast-food restaurants.

In addition to being the world's largest flavor company, IFF manufactures the smells of six of the ten best-selling fine perfumes in the United States, including Estée Lauder's Beautiful, Clinique's Happy, Lancôme's Trésor, and Calvin Klein's Eternity. It also makes the smells of household products such as deodorant, dishwashing detergent, bath soap, shampoo, furniture polish, and floor wax. All these aromas are made through essentially the same process: the manipulation of volatile chemicals. The basic science behind the scent of your shaving cream is the same as that governing the flavor of your TV dinner.

"NATURAL" AND "ARTIFICIAL"

SCIENTISTS now believe that human beings acquired the sense of taste as a way to avoid being poisoned. Edible plants generally taste sweet, harmful ones bitter. The taste buds on our tongues can detect the presence of half a dozen or so basic tastes, including sweet, sour, bitter, salty, astringent, and umami, a taste discovered by Japanese researchers—a rich and full sense of deliciousness triggered by amino acids in foods such as meat, shellfish, mushrooms, potatoes, and seaweed. Taste buds offer a limited means of detection, however, compared with the human olfactory system, which can perceive thousands of different chemical aromas. Indeed, "flavor" is primarily the smell of gases being released by the chemicals you've just put in your mouth. The aroma of a food can be responsible for as much as 90 percent of its taste.

The act of drinking, sucking, or chewing a substance releases its volatile gases. They flow out of your mouth and up your nostrils, or up the passageway in the back of your mouth, to a thin layer of nerve cells called the olfactory epithelium, located at the base of your nose, right between your eyes. Your brain combines the complex smell signals from your olfactory epithelium with the simple taste signals from your tongue, assigns a flavor to what's in your mouth, and decides if it's something you want to eat.

A person's food preferences, like his or her personality, are formed during the first few years of life, through a process of socialization. Babies innately prefer sweet tastes and reject bitter ones; toddlers can learn to enjoy hot and spicy food, bland health food, or fast food, depending on what the people

around them eat. The human sense of smell is still not fully understood. It is greatly affected by psychological factors and expectations. The mind focuses intently on some of the aromas that surround us and filters out the overwhelming majority. People can grow accustomed to bad smells or good smells; they stop noticing what once seemed overpowering. Aroma and memory are somehow inextricably linked. A smell can suddenly evoke a long-forgotten moment. The flavors of childhood foods seem to leave an indelible mark, and adults often return to them, without always knowing why. These "comfort foods" become a source of pleasure and reassurance—a fact that fast-food chains use to their advantage. Childhood memories of Happy Meals, which come with french fries, can translate into frequent adult visits to McDonald's. On average, Americans now eat about four servings of french fries every week.

THE human craving for flavor has been a largely unacknowledged and unexamined force in history. For millennia royal empires have been built, unexplored lands traversed, and great religions and philosophies forever changed by the spice trade. In 1492 Christopher Columbus set sail to find seasoning. Today the influence of flavor in the world marketplace is no less decisive. The rise and fall of corporate empires—of soft-drink companies, snack-food companies, and fast-food chains—is often determined by how their products taste.

The flavor industry emerged in the mid-nineteenth century, as processed foods began to be manufactured on a large scale. Recognizing the need for flavor additives, early food processors turned to perfume companies that had long experience working with essential oils and volatile aromas. The great perfume houses of England, France, and the Netherlands produced many of the first flavor compounds. In the early part of the twentieth century Germany took the technological lead in flavor production, owing to its powerful chemical industry. Legend has it that a German scientist discovered methyl anthranilate, one of the first artificial flavors, by accident while mixing chemicals in his laboratory. Suddenly the lab was filled with the sweet smell of grapes. Methyl an-



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mirrored that of the flavor industry as a whole. IFF was formed in 1958, through the merger of two small companies. Its annual revenues have grown almost fifteenfold since the early 1970s, and it currently has manufacturing facilities in twenty countries.

TODAY'S sophisticated spectrometers, gas chromatographs, and headspace-vapor analyzers provide a detailed map of a food's flavor components, detecting chemical aromas present in amounts as low as one part per billion. The human nose, however, is even more sensitive. A nose can detect aromas present in quantities of a few parts per trillion—an amount equivalent to about 0.000000000003 percent. Complex aromas, such as those of coffee and roasted meat, are composed of volatile gases from nearly a thousand different chemicals. The smell of a strawberry arises from the

thranilate later became the chief flavor compound in grape Kool-Aid. After World War II much of the perfume industry shifted from Europe to the United States, settling in New York City near the garment district and the fashion houses. The flavor industry came with it, later moving to New Jersey for greater plant capacity. Man-made flavor additives were used mostly in baked goods, candies, and sodas until the 1950s, when sales of processed food began to soar. The invention of gas chromatographs and mass spectrometers—machines capable of detecting volatile gases at low levels—vastly increased the number of flavors that could be synthesized. By the mid-1960s flavor companies were churning out compounds to supply the taste of Pop Tarts, Bac-Os, Tab, Tang, Filet-O-Fish sandwiches, and literally thousands of other new foods.

The American flavor industry now has annual revenues of about \$1.4 billion. Approximately 10,000 new processed-food products are introduced every year in the United States. Almost all of them require flavor additives. And about nine out of ten of these products fail. The latest flavor innovations and corporate realignments are heralded in publications such as *Chemical Market Reporter*, *Food Chemical News*, *Food Engineering*, and *Food Product Design*. The progress of IFF has

interaction of about 350 chemicals that are present in minute amounts. The quality that people seek most of all in a food—flavor—is usually present in a quantity too infinitesimal to be measured in traditional culinary terms such as ounces or teaspoons. The chemical that provides the dominant flavor of bell pepper can be tasted in amounts as low as 0.02 parts per billion; one drop is sufficient to add flavor to five average-size swimming pools. The flavor additive usually comes next to last in a processed food's list of ingredients and often costs less than its packaging. Soft drinks contain a larger proportion of flavor additives than most products. The flavor in a twelve-ounce can of Coke costs about half a cent.

The color additives in processed foods are usually present in even smaller amounts than the flavor compounds. Many of New Jersey's flavor companies also manufacture these color additives, which are used to make processed foods look fresh and appealing. Food coloring serves many of the same decorative purposes as lipstick, eye shadow, mascara—and is often made from the same pigments. Titanium dioxide, for example, has proved to be an especially versatile mineral. It gives many processed candies, frostings, and icings their bright white color; it is a common ingredient in women's cosmetics; and it is the pigment used in many white oil paints and house paints. At Burger King, Wendy's, and McDonald's coloring agents have been added to many of the soft drinks, salad dressings, cookies, condiments, chicken dishes, and sandwich buns.

Studies have found that the color of a food can greatly affect how its taste is perceived. Brightly colored foods frequently seem to taste better than bland-looking foods, even when the flavor compounds are identical. Foods that somehow look off-color often seem to have off tastes. For thousands of years human beings have relied on visual cues to help determine what is edible. The color of fruit suggests whether it is ripe, the color of meat whether it is rancid. Flavor researchers sometimes use colored lights to modify the influence of visual cues during taste tests. During one experiment in the early 1970s people were served an oddly tinted meal of



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steak and french fries that appeared normal beneath colored lights. Everyone thought the meal tasted fine until the lighting was changed. Once it became apparent that the steak was actually blue and the fries were green, some people became ill.

The federal Food and Drug Administration does not require companies to disclose the ingredients of their color or flavor additives so long as all the chemicals in them are considered by the agency to be GRAS (“generally recognized as safe”). This enables companies to maintain the secrecy of their formulas. It also hides the fact that flavor compounds often contain more ingredients than the foods to which they give taste. The phrase “artificial strawberry flavor” gives little hint of the chemical wizardry and manufacturing skill that can make a highly processed food taste like strawberries.

A typical artificial strawberry flavor, like the kind found in a Burger King strawberry milk shake, contains the following ingredients: amyl acetate, amyl butyrate, amyl valerate, anethol, anisyl formate, benzyl acetate, benzyl isobutyrate, butyric acid, cinnamyl isobutyrate, cinnamyl valerate, cognac essential oil, diacetyl, dipropyl ketone, ethyl acetate, ethyl amyl ketone, ethyl butyrate, ethyl cinnamate, ethyl heptanoate, ethyl heptylate, ethyl lactate, ethyl methylphenylglycidate, ethyl nitrate, ethyl propionate, ethyl valerate, heliotropin, hydroxyphenyl-2-butanone (10 percent solution in alcohol), α -ionone, isobutyl anthranilate, isobutyl butyrate, lemon essential oil, maltol, 4-methylacetophenone, methyl anthranilate, methyl benzoate, methyl cinnamate, methyl heptene carbonate, methyl naphthyl ketone, methyl salicylate, mint essential oil, neroli essential oil, nerolin, neryl isobutyrate, orris butter, phenethyl alcohol, rose, rum ether, γ -undecalactone, vanillin, and solvent.

Although flavors usually arise from a mixture of many different volatile chemicals, often a single compound supplies the dominant aroma. Smelled alone, that chemical provides an unmistakable sense of the food. Ethyl-2-methyl butyrate, for example, smells just like an apple. Many of today's highly processed foods offer a blank palette: whatever chemicals are added to them will give them specific tastes. Adding

methyl-2-pyridyl ketone makes something taste like popcorn. Adding ethyl-3-hydroxy butanoate makes it taste like marshmallow. The possibilities are now almost limitless. Without affecting appearance or nutritional value, processed foods could be made with aroma chemicals such as hexanal (the smell of freshly cut grass) or 3-methyl butanoic acid (the smell of body odor).

The 1960s were the heyday of artificial flavors in the United States. The synthetic versions of flavor compounds were not subtle, but they did not have to be, given the nature of most processed food. For the past twenty years food processors have tried hard to use only “natural flavors” in their products. According to the FDA, these must be derived entirely from natural sources—from herbs, spices, fruits, vegetables, beef, chicken, yeast, bark, roots, and so forth. Consumers prefer to see natural flavors on a label, out of a belief that they are more healthful. Distinctions between artificial and natural flavors can be arbitrary and somewhat absurd, based more on how the flavor has been made than on what it actually contains.

“A natural flavor,” says Terry Acree, a professor of food science at Cornell University, “is a flavor that’s been derived with an out-of-date technology.” Natural flavors and artificial flavors sometimes contain exactly the same chemicals, produced through different methods. Amyl acetate, for example, provides the dominant note of banana flavor. When it is distilled from bananas with a solvent, amyl acetate is a natural flavor. When it is produced by mixing vinegar with amyl alcohol and adding sulfuric acid as a catalyst, amyl acetate is an artificial flavor. Either way it smells and tastes the same. “Natural flavor” is now listed among the ingredients of everything from Health Valley Blueberry Granola Bars to Taco Bell Hot Taco Sauce.

A natural flavor is not necessarily more healthful or purer than an artificial one. When almond flavor—benzaldehyde—is derived from natural sources, such as peach and apricot pits, it contains traces of hydrogen cyanide, a deadly poison. Benzaldehyde derived by mixing oil of clove and amyl acetate does not contain any cyanide. Nevertheless, it is legally considered an artificial flavor and sells at a much lower price. Natural and artificial flavors are now manufactured at the same chemical plants, places that few people would associate with Mother Nature.

A TRAINED NOSE AND A POETIC SENSIBILITY

THE small and elite group of scientists who create most of the flavor in most of the food now consumed in the United States are called “flavorists.” They draw on a number of disciplines in their work: biology, psychology, physiology, and organic chemistry. A flavorist is a chemist with a trained nose and a poetic sensibility. Flavors are created by blending scores of different chemicals in tiny amounts—

a process governed by scientific principles but demanding a fair amount of art. In an age when delicate aromas and microwave ovens do not easily co-exist, the job of the flavorist is to conjure illusions about processed food and, in the words of one flavor company’s literature, to ensure “consumer likeability.” The flavorists with whom I spoke were discreet, in keeping with the dictates of their trade. They were also charming, cosmopolitan, and ironic. They not only enjoyed fine wine but could identify the chemicals that give each grape its unique aroma. One flavorist compared his work to composing music. A well-made flavor compound will have a “top note” that is often followed by a “dry-down” and a “leveling-off,” with different chemicals responsible for each stage. The taste of a food can be radically altered by minute changes in the flavoring combination. “A little odor goes a long way,” one flavorist told me.

In order to give a processed food a taste that consumers will find appealing, a flavorist must always consider the food’s “mouthfeel”—the unique combination of textures and chemical interactions that affect how the flavor is perceived. Mouthfeel can be adjusted through the use of various fats, gums, starches, emulsifiers, and stabilizers. The aroma chemicals in a food can be precisely analyzed, but the elements that make up mouthfeel are much harder to measure. How does one quantify a pretzel’s hardness, a french fry’s crispness? Food technologists are now conducting basic research in rheology, the branch of physics that examines the flow and deformation of materials. A number of companies sell sophisticated devices that attempt to measure mouthfeel. The TA.XT2i Texture Analyzer, produced by the Texture Technologies Corporation, of Scarsdale, New York, performs calculations based on data derived from as many as 250 separate probes. It is essentially a mechanical mouth. It gauges the most-important rheological properties of a food—bounce, creep, breaking point, density, crunchiness, chewiness, gumminess, lumpiness, rubberiness, springiness, slipperiness, smoothness, softness, wetness, juiciness, spreadability, springback, and tackiness.

Some of the most important advances in flavor manufacturing are now occurring in the field of biotechnology. Complex flavors are being made using enzyme reactions, fermentation, and fungal and tissue cultures. All the flavors created by these methods—including the ones being synthesized by fungi—are considered natural flavors by the FDA. The new enzyme-based processes are responsible for extremely true-to-life dairy flavors. One company now offers not just butter flavor but also fresh creamy butter, cheesy butter, milky butter, savory melted butter, and super-concentrated butter flavor, in liquid or powder form. The development of new fermentation techniques, along with new techniques for heating mixtures of sugar and amino acids, have led to the creation of much more realistic meat flavors.

The McDonald’s Corporation most likely drew on these advances when it eliminated beef tallow from its french fries.

The company will not reveal the exact origin of the natural flavor added to its fries. In response to inquiries from *Vegetarian Journal*, however, McDonald's did acknowledge that its fries derive some of their characteristic flavor from "an animal source." Beef is the probable source, although other meats cannot be ruled out. In France, for example, fries are sometimes cooked in duck fat or horse tallow.

Other popular fast foods derive their flavor from unexpected ingredients. McDonald's Chicken McNuggets contain beef extracts, as does Wendy's Grilled Chicken Sandwich. Burger King's BK Broiler Chicken Breast Patty contains "natural smoke flavor." A firm called Red Arrow Products specializes in smoke flavor, which is added to barbecue sauces, snack foods, and processed meats. Red Arrow manufactures natural smoke flavor by charring sawdust and capturing the aroma chemicals released into the air. The smoke is captured in water and then bottled, so that other companies can sell food that seems to have been cooked over a fire.

The Vegetarian Legal Action Network recently petitioned the FDA to issue new labeling requirements for foods that contain natural flavors. The group wants food processors to list the basic origins of their flavors on their labels. At the moment vegetarians often have no way of knowing whether a flavor additive contains beef, pork, poultry, or shellfish. One of the most widely used color additives—whose presence is often hidden by the phrase "color added"—violates a number of religious dietary restrictions, may cause allergic reactions in susceptible people, and comes from an unusual source. Cochineal extract (also known as carmine or carminic acid) is made from the desiccated bodies of female *Dactylopius coccus* Costa, a small insect harvested mainly in Peru and the Canary Islands. The bug feeds on red cactus berries, and color from the berries accumulates in the females and their unhatched larvae. The insects are collected, dried, and ground into a pigment. It takes about 70,000 of them to produce a pound of carmine, which is used to make processed foods look pink, red, or purple. Dannon strawberry yogurt gets its color from carmine, and so do many frozen fruit bars, can-



*In response to
inquiries from
Vegetarian
Journal ...
McDonald's did
acknowledge that
its fries derive
some of their
characteristic
flavor from "an
animal source."*

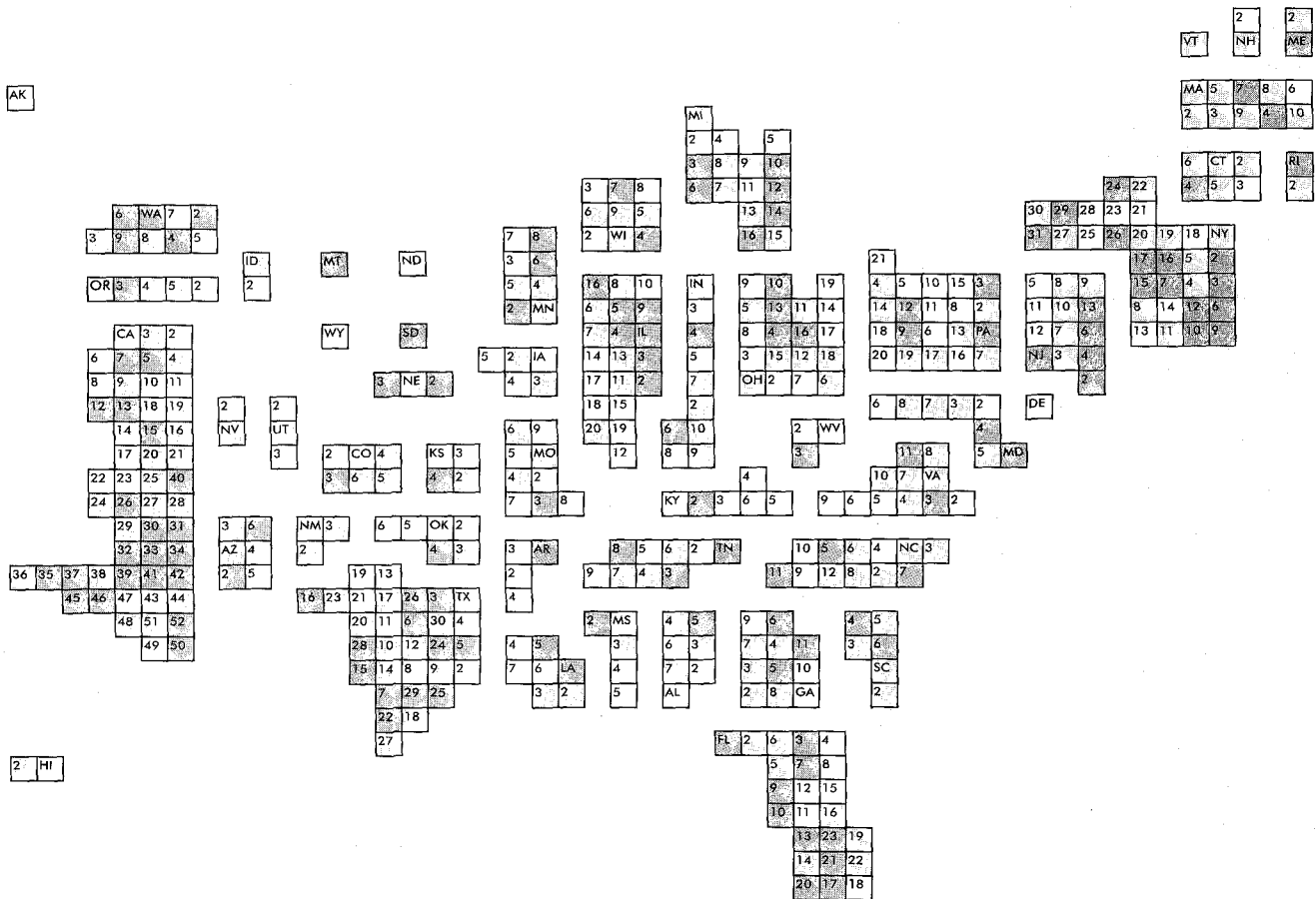
dies, and fruit fillings, and Ocean Spray pink-grapefruit juice drink.

IN a meeting room at IFF, Brian Grainger let me sample some of the company's flavors. It was an unusual taste test—there was no food to taste. Grainger is a senior flavorist at IFF, a soft-spoken chemist with graying hair, an English accent, and a fondness for understatement. He could easily be mistaken for a British diplomat or the owner of a West End brasserie with two Michelin stars. Like many in the flavor industry, he has an Old World, old-fashioned sensibility. When I suggested that IFF's policy of secrecy and discretion was out of step with our mass-marketing, brand-conscious, self-promoting age, and that the company should put its own logo on the countless products that bear its flavors, instead of allowing other companies to enjoy the consumer loyalty and affection inspired by those flavors, Grainger politely disagreed, assuring me that such a thing would never be done. In the absence of public credit or acclaim, the small and secretive fraternity of flavor chemists praise one another's work. By analyzing the flavor formula of a product, Grainger can often tell which of his counterparts at a rival firm devised it. Whenever he walks down a supermarket aisle, he takes a quiet pleasure in seeing the well-known foods that contain his flavors.

Grainger had brought a dozen small glass bottles from the lab. After he opened each bottle, I dipped a fragrance-testing filter into it—a long white strip of paper designed to absorb aroma chemicals without producing off notes. Before placing each strip of paper in front of my nose, I closed my eyes. Then I inhaled deeply, and one food after another was conjured from the glass bottles. I smelled fresh cherries, black olives, sautéed onions, and shrimp. Grainger's most remarkable creation took me by surprise. After closing my eyes, I suddenly smelled a grilled hamburger. The aroma was uncanny, almost miraculous—as if someone in the room were flipping burgers on a hot grill. But when I opened my eyes, I saw just a narrow strip of white paper and a flavorist with a grin. ☘

See the online version of this article, at www.theatlantic.com/flavor, for an Atlantic Unbound interview with Eric Schlosser on the subject of his new book, *Fast Food Nation*.

Outside Influence



THE map above, divided into U.S. congressional districts, shows what proportion of the money raised in each 1998 race for a seat in the House of Representatives was donated by individuals from outside the district. According to Federal Election Commission data, more than a third of the \$494 million raised by candidates for the House during that election cycle was made up of individual donations of \$200 or more (the level at which the FEC begins to keep detailed records)—and 58 percent of those donations came from residents of other districts.

Districts in which the majority of individual contributions come from outside illustrate what analysts call the “dual constituency” problem, which divides a representative’s attention between residents of his or her district and others, who make their interests known through campaign contributions. There are a number of possible explanations for why donors reach across district lines. They may have material interests in a district other than the one in which they reside, or they may be seeking to extend their sphere of influence into a poorer neighboring district. For example, in the four-way race for the New York ninth district, which winds through less-affluent neighborhoods

in Brooklyn and Queens, 86 percent of all individual donations of \$200 or more came from outsiders—nearly \$70,000 from residents of the Upper West Side of Manhattan alone. Elsewhere high levels of outside contributions may reflect highly politicized races in which disproportionate amounts of money were donated by either the right or the left. In Idaho’s contentious first-district contest between the Republican incumbent, Helen Chenoweth, and the Democratic challenger, Daniel Williams, almost 50 percent of Chenoweth’s and 80 percent of Williams’s large individual donations came from outside their district. Ultimately, Williams’s outside funding was not enough to overcome the disparity in spending—Chenoweth spent a total of \$1,331,487 to Williams’s \$876,308—and unseat an incumbent in a Republican state. —Carl Thor Dahlman

Percentage of contributions over \$200 made by donors outside the district

75-100%

50-74%

25-49%

0-24%

insufficient data

NY State code

indicates first district

Source: Federal Election Commission

IN THE OPEN

Those summer nights when the planes came over
it seemed it was every night that summer
after the still days of perfect weather
I kept telling myself what it was not
that I was feeling as the afternoon
light deepened into the lingering
radiance that colored its leaving us
that was the light through which I would come home
again and again with the day over
picking my way from Whitehall through the new
rubble in the known streets the broken glass
signaling from among the crevices
fallen façades hoses among the mounds
figures in rubber coming and going
at the ruins or bowed around lowered
voices they all spoke in lowered voices
as I recall now so that all I heard
was the murmured current I can still hear
how many in that building I might hear
something like that how many in that one
then a quiet street the shop doors open
figures waiting in lines without a word
with the night ahead no it was not fear
I said to myself that was not the word
for whatever I heard as the door closed
as we talked of the day as we listened
as the fork touched the plate like a greeting
as the curtains were drawn as the cat stretched
as the news came on with word of losses
warning of the night as we picked up the ground sheet
and the folded blankets as I bent down
to remember the fur of Tim the cat
as the door closed and the stairs in the dark
let out that we were going as the night
swung wide before us once more in the park

Often after the all clear it would be
very cold suddenly a reminder
hardly more than that as I understood
of the great cold of the dark everywhere
around us deeper than I could believe
usually she was asleep by then

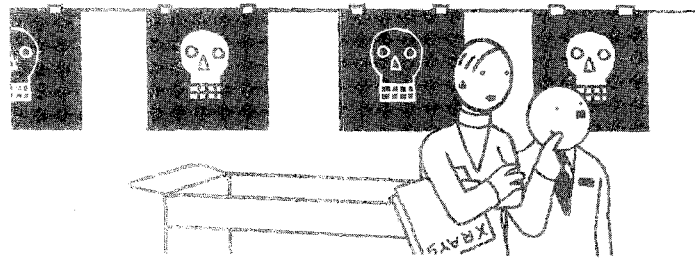
warm and breathing softly I could picture
how she must look the long curve of her lips
the high white forehead I wondered about
her eyelids and what calm they had come to
while the ice reached me much of the night was
in pieces by then behind me piled up
like rubble all fallen into the same
disorder the guns shouting from the hill
the drones and the broad roar of planes the screams
of sirens the pumping of bombs coming
closer the beams groping over the smoke
they all seemed to have ended somewhere without
saying *this is the last one you seldom*
hear the dog stop barking there were people
on all sides of us in the park asleep
awake the sky was clear I lay looking
up into it through the cold to the lights
the white moments that had traveled so long
each one of them to become visible
to us then only for that time and then
where did they go in the dark afterward
the invisible dark the cold never
felt or ever to be felt where was it
then as I lay looking up into all
that had been coming to pass and was still
coming to pass some of the stars by then
were nothing but the light that had left them
before there was life on earth and nothing
would be seen after them and the light from
one of them would have set out exactly
when the first stir of life recognized death
and began its delays that light had been
on its way from there all through what happened
afterward through the beginning of pain
the return of pain into the senses
into feelings without words and then words
traveling toward us even in our sleep
words for the feelings of those who are not
there now and words we say are for ourselves
then sounds of feet went by in the damp grass
dark figures slipping away toward morning

—W. S. MERWIN

The Indoctrinologists Are Coming

by SALLY SATEL

Does either color or sex determine the level and frequency of medical care that individual patients receive? A careful look at available data, the author argues, suggests that the answer is no



WITH increasing frequency social activists, scholars, and even health-care professionals assert that the culture of medicine (indeed, culture itself) is to blame for many illnesses. They are not talking about health-insurance woes, fifteen-minute office visits, or medical mistakes. They are making a far more sweeping, and more radical, argument.

- An article in *The New England Journal of Medicine* in February of 1999 reported that white men get the best treatment for heart disease. Other experts have cited discrimination in patient care as a cause of disparities in the health of blacks and whites.
- The 1998 President's Initiative on Race stated, "Research suggests that discrimination and racism create stress leading to poorer health among members of racial minority groups." Some public-health experts who advance this claim have used it to rebut physicians who urge people to take responsibility for protecting their own health.
- Women's-health advocates often contend that the male-dominated medical establishment has kept women from participating as subjects in research studies, thus depriving them of the benefits of medical breakthroughs. Some nurses say that they are oppressed by the hierarchical nature of that medical establishment and thus prevented from giving the best care to patients.
- Former psychiatric patients, calling themselves "consumer-survivors," condemn the health-care system for violating their human rights. They are on a crusade to "limit the powers of psychiatry by making consumers full partners in diagnosis and treatment."

The common theme here is the failure of the medical system to make a connection between illness and oppression. This is not a dry academic debate with purely abstract consequences. The critics are beginning to fashion a world of politically correct medicine. I began to worry about this in 1995, when I learned that some of my fellow psychiatrists at San Francisco General Hospital were grouping inpatients according to race and sexual orientation so that they could organize treatment around psychological needs supposedly specific to those groups.

Though activists believe they are fighting for better health through social justice, their actions do not necessarily prevent disease, treat symptoms, or improve clinical methods. At best they create distractions and waste money; at worst they interfere with effective treatment. In either case, they undermine the Hippocratic ideal, which puts the patient first.

How did these activists—I call them "indoctrinologists," because their diagnosis is oppression and their prescription is social reform—manage to gain their foothold? Larger social trends supply part of the answer: for several decades a range of institutions, such as universities, courts, and workplaces, have been under assault by people claiming oppression of one sort or another. Another part of the answer resides in well-earned

feelings of guilt that afflict the medical profession. The reputation of the U.S. Public Health Service is still tarnished by revelations about the notorious syphilis study in Tuskegee, Alabama. For years women were expected to submit without question to radical mastectomies and hysterectomies simply because their (male) doctors recommended them. Psychiatry has its own embarrassments, such as the dismal back wards of state mental hospitals in the 1930s, 1940s, and 1950s.

When the control of communicable diseases was the primary focus of public health, the profession's tasks were well defined—tracking disease and ensuring the purity of food and water supplies—and its victories were often dramatic. Today public health is still very much concerned with epidemiology (the study of diseases in populations) and the control of infections, but over the past century its scope has expanded, legitimately so, to include such activities as monitoring air quality, administering vaccination programs and community-based clinics, and combating asthma, diabetes, heart disease, and other chronic conditions.

Not surprisingly, public health has inevitably overlapped with public policy. After all, many diseases and afflictions are directly related to living and working conditions. In Colonial times, for example, local governments passed sanitation laws and imposed fines for selling putrid meat or failing to drain swamps. In the early part of the twentieth century the “industrial hygiene” movement played an important role in public health by condemning the needlessly hazardous working conditions of coal miners, factory hands, and other laborers, which could result in severe injuries, lung disease, or poisoning from mercury, radium, or solvents. The movement recalled the spirit of the nineteenth-century German pathologist, physician, and statesman Rudolf Virchow, who had spoken eloquently about the effects of social conditions such as poverty and squalor on fitness and health. He called physicians the “natural attorneys of the poor.”

Documenting the unhealthful effects of social conditions and calling them to the attention of civic leaders is one thing—but some contemporary public-health experts have gone much further.

CAN RACISM MAKE YOU SICK?

In the early 1990s a new academic enterprise, “social production theory,” was born. Many scholars consider Richard G. Wilkinson, a professor of social epidemiology at the University of Sussex, in England, to be the father of this school of thought, which considers how social variables—

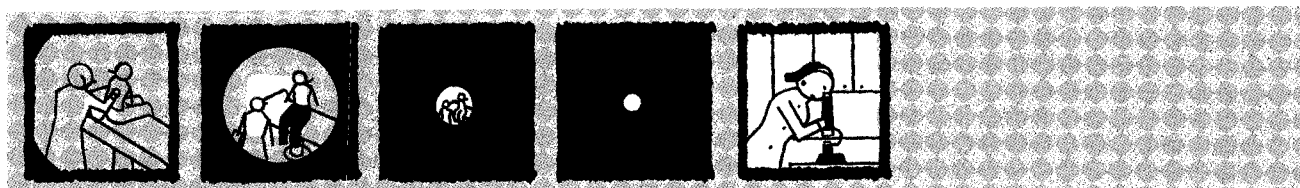
among them classism, racism, and sexism—may contribute to disease. Wilkinson published an article on the relationship between income and health in 1992, and numerous studies followed. Social productionism posits two general ways in which social disenfranchisement can lead to infirmity and a shortened life expectancy: through the stress of oppression, and through relative material disadvantage and inferior access to health care, which take the greatest toll on minorities and the poor.

We know that, on average, people who are low on the socioeconomic ladder are less healthy and do not live as long as those above them. But is a person's health largely at the mercy of social forces? Some public-health experts come close to saying yes. Rodney Clark, a psychologist at Wayne State University, asserts that emphasizing the role of personal responsibility in various areas, including health, constitutes “subtler forms of racism” than overt discrimination. Richard S. Cooper, a physician at Loyola University Medical School, near Chicago, holds a similar view. “For all intents and purposes,” he writes, “black people in this society are imprisoned by institutional racism; this is the attribute of blackness which at bottom determines their health status.”

Hypertension, or high blood pressure, is more likely to afflict black Americans than white, even when factors such as income and salt intake are taken into account. Several explanations have been offered—chief among them diet and genetic predisposition—but the issue has continued to perplex medical researchers.

In the fall of 1996 Nancy Krieger, of Harvard University's School of Public Health, and her colleague Stephen Sidney, a physician at the Kaiser Foundation Research Institute, in Oakland, California, claimed to have new insight into the blood-pressure puzzle: that blacks are often victims of racial bias, they said, could explain their higher levels of hypertension. Krieger and Sidney's study, “Racial Discrimination and Blood Pressure,” appeared in the *American Journal of Public Health*, and it made news instantly.

“DISCRIMINATION MAY CAUSE HYPERTENSION IN BLACKS,” a headline in *The Washington Post* for October 24, 1996, declared. On the same day National Public Radio broadcast a report in which one psychologist interviewed about the study said, “We're having more hard, concrete data that what society does to you can affect your health.” Brent Staples, of *The New York Times*, wrote an editorial the following month titled “Death by Discrimination?” A couple of years later, still mindful of the study, Staples wrote, “The medical profession has yet to list ‘racism’ as a cause of death. But some social scientists now see tension related to discrim-



ination as a health hazard on par with smoking and a high-fat diet." Krieger and Sidney's study was included in the 1998 report from President Clinton's Initiative on Race.

It is not unreasonable to think that the stress of being a victim of discrimination could produce certain kinds of illnesses. After all, we know that many physiological processes are influenced by psychological stress. For example, the immune and hormonal systems and cardiovascular functioning can be affected by emotional states.

In their study Krieger and Sidney collected information on 4,086 black and white men and women aged twenty-five to thirty-seven, who were questioned about their "experiences of racial discrimination and unfair treatment." The researchers asked whether the subjects had ever "been prevented from doing something [for example, getting a job or securing housing] or been hassled or made to feel inferior" because of any of a number of social variables, including sex and race. They divided the subjects into male and female, black and white, working-class and professional, and also into three groups according to the number of episodes of racial discrimination each had experienced: none, one or two, or three or more. Risk factors for high blood pressure such as obesity and smoking were taken into account. (The researchers did not factor in salt intake, however, which is a major determinant of blood-pressure levels, particularly in African-Americans.)

Krieger and Sidney looked at blood-pressure readings to see if a correlation could be found with the subjects' experiences of bias. They assumed that incidents the subjects perceived as discriminatory produced equal amounts of stress on all of them.

The results did not seem to follow any obvious pattern. Black working-class men and black working-class women who had reported no episodes of discrimination had higher blood-pressure readings than those who had reported one or more. Black professional women who had reported one or two episodes of discrimination had lower blood-pressure readings than those who had reported none or three or more, and black professional men who had reported one or two episodes of discrimination had higher readings than those reporting none or three or more.

Krieger and Sidney also asked their subjects how they had responded to being treated unfairly. Again, the findings seemed to show no consistent pattern. The highest blood-pressure readings among black working-class women were found in those who accepted unfair treatment as a fact of life and did not talk about it. Among black professional men, those who accepted unfairness as a fact and kept their experiences to

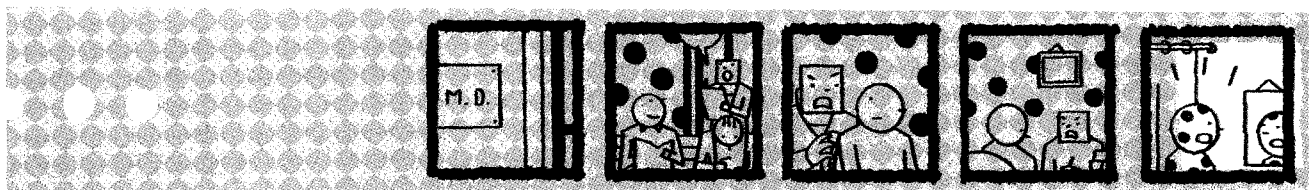
themselves had lower blood pressure than those who did something about it and talked to others. As an explanation for the varying results, Krieger and Sidney considered the possibility that "some people who experience discrimination may not acknowledge or report it as such" or "may find it painful to admit that they have experienced discrimination." They also considered the idea that the subjects felt they deserved to be discriminated against, owing to their race—a process called internalized oppression.

Thus any finding that did not fit the expected direction of the data could be explained away. It is a standard rule of research that hypotheses must survive attempts to falsify them before they can be regarded as true—or, more precisely, as highly probable. But internalized oppression, by its very nature, is difficult to falsify—and the researchers seemed to make no attempt to test this hypothesis. Nonetheless, they confidently concluded, "Our results indicate that racial discrimination shapes patterns of blood pressure among the U.S. Black population."

RACE AND MEDICAL BIAS

ACCORDING to indoctrinologists, a mismatch in race between doctor and patient—especially when the doctor is white and the patient is not—may be enough to trigger biases that result in second-rate medical treatment and poorer health. Kenneth DeVille, of the Department of Medical Humanities at the East Carolina University School of Medicine, wrote in the August, 1999, issue of *The American Journal of Public Health*, "It is increasingly evident that African Americans and other minority patients have strong grounds for doubting both the goodwill and the color blindness of White medical practitioners." The American Medical Association's official newspaper, *American Medical News*, has stated that "a growing body of research reports that racial disparities in health status can be explained, at least in part, by racism and discrimination within the health care system itself." This is why, according to the Reverend Al Sharpton, of New York, health is the "new civil-rights battlefield"—a sentiment echoed by other African-American leaders, including the Reverend Jesse Jackson and Julian Bond, the chairman of the National Association for the Advancement of Colored People.

In a 1998 radio address delivered during Black History Month, President Clinton said, "Nowhere are the divisions of race and ethnicity more sharply drawn than in the health of our people." Infant-mortality rates were twice as high for African-Americans as for whites, he said. Black men suffered from heart disease at nearly twice the rate of whites, and



blacks were more likely than whites to die from breast cancer or prostate cancer. Overall, African-Americans were less likely to be routinely screened for cancer and less likely to get regular check-ups. Perhaps, the President said, one of the reasons for these disparities was “discrimination in the delivery of health services.”

Given the history of systematic racial discrimination and segregation in the health-care system, lingering bias shouldn’t be categorically ruled out. Black patients were once treated in separate and inferior hospital wards—a policy that persisted at many hospitals in the Deep South until the 1960s. Routinely barred from joining hospital staffs and medical societies, black physicians started their own institutions to treat other blacks. As late as the mid-1960s several medical schools had restrictions against admitting black students.

Leslie Pickering Francis, a medical ethicist at the University of Utah, argues that in the absence of contrary evidence, “racism remains the presumptive cause of . . . health care problems minorities face.” This view is increasingly common. But the available evidence suggests that many race-related differences in health are not what they seem.

Cardiac catheterization, a procedure used to detect blockage in the coronary arteries (the vessels that feed blood to the heart itself), is frequently crucial in determining whether the arteries can be widened using a tiny balloon (a process known as balloon angioplasty) or whether some or all of them must be replaced in a bypass operation. Struck by the observation that black patients undergo catheterization less often than whites, Kevin A. Schulman, then at Georgetown University Medical Center, and others wanted to examine how doctors make the decision to refer patients for the procedure. They recruited 720 primary-care physicians at medical conventions and asked them to participate in a study of clinical decision-making. The physicians were not told that one purpose of the study was to explore how the race and sex of a patient might affect decisions, or that the researchers expected to find African-Americans and women referred for cardiac catheterization less frequently than white men.

The participants, most of whom were white, each watched one randomly selected video of a patient (actually, an actor wearing a hospital gown) who answered questions about chest pain and other relevant medical history. The viewers were given fictitious information about the actor-patients’ insurance, occupations, and other personal history. The questions asked and the actors’ responses, down to the gestures used when describing their symptoms, were all scripted to minimize inconsistencies. There were eight actors—representing all the possible

combinations of race (black or white), sex (male or female), and age (fifty-five or seventy)—and 144 scenarios, one for every combination of these variables plus clinical variables: the nature of the chest pain, the level of coronary risk, and stress-test results.

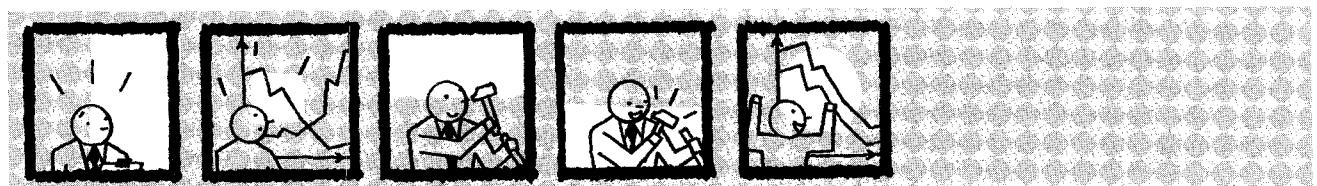
The participants were asked whether the patients’ complaints appeared to reflect heart disease or another kind of distress, such as indigestion, and to rate the likelihood that the patient had coronary-artery disease. According to the study, “women and blacks [in the study] were less likely to be referred for cardiac catheterization than men and whites.” Men and whites were not referred about nine percent of the time; women and blacks were not referred about 15 percent of the time.

Schulman and his colleagues used a statistical analysis called odds ratio to report their findings—the ratio of the odds in favor of blacks’ being referred for catheterization to the odds of whites’ being referred. The odds that blacks would be referred were 40 percent lower. Odds ratio is not the same as risk ratio, but the media equated them in referring to this study and reported that blacks had a 40 percent lower referral rate than whites. The statistic was widely circulated, and in discussing odds ratio, Schulman said in a *Nightline* interview the day before the study was published that “blacks were 40 percent less likely to be referred for cardiac catheterization compared to whites.”

The study findings were presented in an article titled “The Effect of Race and Sex on Physicians’ Recommendations for Cardiac Catheterization,” published in *The New England Journal of Medicine* in February of 1999. Schulman and his colleagues wrote,

Our finding that the race and sex of the patient influence the recommendations of physicians independently of other factors may suggest bias on the part of the physicians. However, our study could not assess the form of bias. Bias may represent overt prejudice on the part of physicians or, more likely, could be the result of subconscious perceptions rather than deliberate actions or thoughts. Subconscious bias occurs when a patient’s membership in a target group automatically activates a cultural stereotype in the physician’s memory regardless of the level of prejudice the physician has.

The study received wide attention. On ABC’s *World News This Morning*, Juju Chang told viewers, “How your doctor treats your heart may depend on the color of your skin. . . . The bias shows up in the diagnosis and doctors don’t even realize it.” Peter Jennings predicted on *World News Tonight* that the study would make “political waves” because it showed that “prejudice among doctors causes a gap in the



quality of health care between blacks and whites." On *Nightline*, Ted Koppel set up the story like this: "Last night we told you how the town of Jasper, Texas, is coming to terms with being the place where a black man was dragged to his death behind a truck by an avowed racist. Tonight we're going to focus on [doctors] . . . who would be shocked to learn that what they do routinely fits quite easily into the category of racist behavior."

Five months after the study appeared, *The New England Journal of Medicine* published a rebuttal, by Lisa M. Schwartz, Steven Woloshin, and H. Gilbert Welch, all physicians at the White River Junction Veterans Administration Hospital, in Vermont. The authors reviewed the original study data and explained that the actual average referral rates for three of the four groups were in fact the same. White men, white women, and black men were all referred by about nine out of ten doctors; black women were referred by about eight out of ten.

Schwartz, Woloshin, and Welch also expressed dismay that Schulman and his colleagues had focused discussion on two groupings (race and sex) rather than on the breakdown into four groups—white men, black men, white women, and black women—and that odds ratios were used in the study but reported by the media as risk ratios, thus overstating the findings. Equating odds ratios with risk ratios led to the "mistaken impression that blacks had a 40 percent lower probability of referral than whites, whereas in fact, the probability of referral for blacks was 7 percent lower," the authors wrote. ". . . These exaggerations serve only to fuel anger and undermine the trust between physicians and their patients." Schwartz and her colleagues were not alone in expressing concern; the *NEJM* editors published a note in the same issue expressing regret that odds ratios were used when risk ratios would have been clearer. "We take responsibility for the media's overinterpretation of [this] article," they wrote. "The evidence of racism and sexism in [the Schulman] study was overstated."

Nevertheless, Schulman persisted. "Our study will . . . encourage the medical profession to seek ways to eliminate unconscious bias that may influence physicians' clinical decisions," he maintained in *The New England Journal of Medicine*. Schulman also met with the Congressional Black Caucus, at its invitation, and briefed members on bias in the health-care system. Paul Douglass, a cardiologist with the Morehouse School of Medicine, in Atlanta, supports Schulman's interpretation. "You can argue with statistics all day," he told *USA Today*. "We have to face the reality of our situation: there is a gender and racial bias."

ALTERNATIVE EXPLANATIONS

LESS eye-catching than accusations of bias are everyday aspects of clinical care that account for many of the recorded disparities among patient groups. For example, medical problems do not necessarily occur with the same frequency across races. As a 1999 report from the Henry J. Kaiser Family Foundation points out, "It should be noted that every differential in care is not necessarily a problem and the level of care obtained by whites may not be the appropriate standard for comparison." Consider these facts: uterine fibroid tumors and hysterectomies are more common in black women than in white women, and osteoporosis-related fractures, and thus hip replacements, are rarer. Limb amputation is more common among black patients, sometimes because thicker atherosclerosis in the leg makes it harder to perform limb-saving surgery.

African-Americans suffer strokes at higher rates than whites, yet the former are much less likely to undergo carotid endarterectomy, a procedure to unclog arteries in the neck. Racism? Unlikely. Whites tend to have obstructions in the large, superficial carotid arteries of the neck region, which are readily accessible to surgery, whereas blacks often have blockages in the branches of the carotids. These smaller vessels run deeper and farther up into the head, where surgery is riskier.

Thus even without cultural or socioeconomic obstacles an African-American patient at high risk for stroke is far less likely than a white patient to undergo carotid endarterectomy. Yet David R. Williams, a sociologist at the University of Michigan's Institute for Social Research, perceives disparities like these as evidence of bias. *American Medical News* quoted Williams in May of last year:

National studies, such as one that examined care at Dept. of Veterans Affairs medical facilities—where all of the patients have comparable insurance coverage—suggest "racial disparities in the quality of medical care do not merely reflect the behavior of a few bad apples," Williams said. "The evidence is too overwhelming and the pattern is too pervasive."

Williams and others seem not to consider a different interpretation: the patients' clinical needs, rather than the doctors' personal biases, are dictating the care. If not for concern about their patients (many of whom are treated in private hospitals and have health insurance), why wouldn't physicians perform a procedure for which they would be paid?

Indoctrinologists are making steady inroads in medicine.



They now sit at the helms of professional associations and hold impressive posts at schools of public health; they have changed medical-school admissions criteria; they serve on the boards of respected academic journals. They are outspoken, sometimes insistent participants in many legislative and political debates. Their numbers and influence are growing. Most disturbing, I find, is their stubborn reluctance to acknowledge that each person has some responsibility for preserving his or her own health—an attitude that threatens to reverse the gains made by public health in the past century.

I am by no means the first to note the existence of the indoctrinologists. The medical economist Robert G. Evans commented in *Why Are Some People Healthy and Others Not?* (1994), "For [those on the left], health differentials are markers for social inequality and injustice more generally, and are further evidence of the need to redistribute wealth and power, and restructure or overturn the existing social order." An example of what Evans is talking about comes from Sally Zierler, of Brown University's Department of Community Health, who sees AIDS as "a biological expression of social inequality." At a lecture Zierler gave at the 1998 annual meeting of the American Public Health Association, I copied down some of her recommendations for changing the wage structure, which is one of her prescriptions for curbing the AIDS epidemic: cap salaries of CEOs, eliminate corporate subsidies, and strengthen labor unions.

Tuberculosis is another disease that one might call a biological expression of social inequality, because it primarily affects the poor, the homeless, and the addicted. Yet it was New York City's hard-nosed decision, in the early 1990s, to require that everyone who needed medication take it daily, in front of a health worker, that checked the spread of tuberculosis.

Ironically, indoctrinologists, who want revolution in the name of health, have been quick to condemn practical hygiene efforts as dangerous social intrusion. As Paul Starr noted in his sweeping history *The Social Transformation of American Medicine* (1982),

The recent anti-Progressive historians, including both Marxists and liberals, tend to reclassify as social control events like the conquest of disease that were once properly regarded as historic achievements of human freedom. They remember the public health nurse who instructed mothers in infant hygiene as a kind of surreptitious agent of the police, insinuating bourgeois ideals into the authentic culture of the working class.

Some of the more counterproductive manifestations of this revolution-in-waiting can be reversed overnight. I suggest, for example, that the federal government cease funding research into the effects of "powerlessness," "classism," and "racism" on health; these are virtually impossible to study in quantitative fashion. I also think that medical schools should stop using racial preferences in admitting students, in light of ample evidence that students admitted noncompetitively have academ-

ic trouble in medical school and little evidence that minority patients fare better when treated by minority physicians—a standard justification for racial preferences.

These steps would be a good beginning, but they are unlikely to halt a movement of such broad scope. We must remain clear-eyed about the fact that uneven access to medical services, disparate knowledge of good health practices, and patients' own attitudes about their health—not discrimination and bias—underlie the vast majority of differences in health outcomes. Moreover, we must concentrate on the problems that the health-care profession can actually do something about: preventing and alleviating the nation's physical—not its social—distress. ☘

THE BINDI MIRROR

The small circle which a married woman places on her forehead is known as a bindi ("zero"). These are usually bought ready-made from the market and have become almost a fashion accessory, with every imaginable shape and colour to match the occasion. You'll also come across a wide variety of used bindis stuck to the mirrors in hotel bathrooms!

India, Lonely Planet Travel Survival Kit

Here we are, ringed in the circular mirror, you in front,
head bowed, brushing rat's nests and static
from hair that's the long sable-silk of Indian women.

We're oblivious of each other in that married way
that some call oneness, others call blindness. Your O
snaps us out of our morning motions
as you spot the various bindis round our mirror.

The index finger of your wedding-band hand traces
from one to another, connecting confetti zeros

that are red as the razor-nick on my Adam's apple.
Others are inlaid with pearls as if with love itself.

Who wore that God's teardrop, that bloody arrowhead,
or those joyful signposts, gay-colored as a Hindu temple?

O women of such third eyes, did any of you grow
weary of the SOLD stickers on your brows, the zeros
of your vows? While your men slept did you vanish
into the immense Ravana dark of the Indian night?

Could you have slipped them off as wedding rings are
in hotels on our side of the faithless globe?

Below our moving reflection are rows
of crimson bindis like tiers of shimmering votive flames.

—GREG DELANTY

She felt her father's rough palm against her own and knew
for the first time that there was a number you couldn't count to,
and that it could feel so good to be confused

A Diller, a Daughter

by TRUDY LEWIS

*A diller, a dollar,
A ten o'clock scholar,
What makes you come so soon?
You used to come at ten o'clock.
And now you come at noon.*

YOUR first word was “ma,” and ever since then you’ve been using it against me. Even those early sentences were ten-dollar tongue twisters out of the mouth of a little two-penny sprout—or so your dad always said. But then, he always favored you, being the youngest, and a girl at that. That’s why I’m so surprised to get this bare engraved invitation in the mail—no note, no phone call, not even a photo of the prospective groom to give us some rough idea how our grandchildren might come out after all these years. Like you don’t even want us involved. Don’t want your mother planning a church-basement wedding shower or baking a chocolate groom’s cake filled with the usual lucky family charms. Don’t want your father walking you down the aisle with his poor sense of rhythm and his accelerating gout. I guess that’s not the thing, out there in L.A.

But no hard feelings. Ms. Pade, if that’s what you’re still calling yourself these days. See, I’m sending you an album just like I did with the other kids, even though you must think

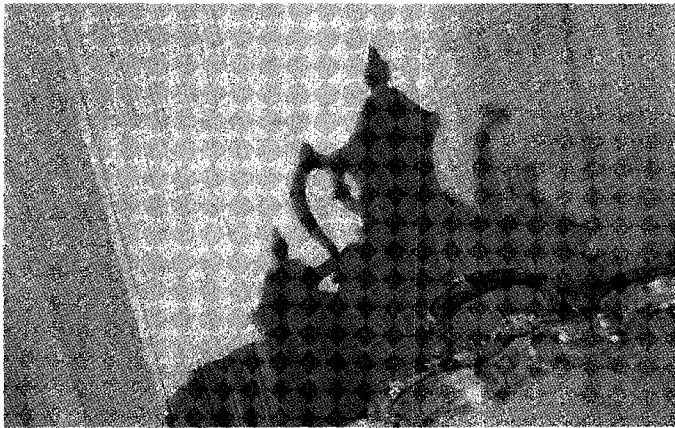
it’s a lame tradition—your old ma trying to paste up a scrapbook for every wedding. When Nelson finally gave in and married the little Ames girl, down the street, I put his old notes and doodles in a metal binder, and now he keeps it out in the shop as a conversation piece. Jim has his racing-car album in a row of cookbooks, on top of the microwave in that bachelor apartment where he’s been living ever since the divorce. The fancy Korean dentist that Donnie hooked up with in Dallas is some crack housekeeper: she’s got his cute cowboy organizer on the kiddie shelf along with the storybooks, to read to the kids when they get to be the right age. So you’re the last, except for Aaron, who doesn’t even have a fiancée yet, though, to tell the truth, he’s tested the wheels on two or three. You can stuff this tasteful valentine number in a eucalyptus tree for all I care. It includes all the words that ever got written between us—something to remind you where you come from on your wedding day. And if this one’s a little lighter than the others, you’ll understand why.

You were a quick child, I give you that much. Loved your brothers, rarely tattled, cleaned your plate. I seemed to be the only thing you carped about, from the time you were a measly little sprite: four freckles, three cowlicks I had to work your part around, the wind whistling through your missing teeth while you told some story with its kite tail dangling out to the next county. Here’s the first paper I have from you:

I go to the zoo. The animals yell. I like the bears. I pet them and my ma's voys gets big.

Patty Ballard

Notice how the standing letters lean forward, just falling on their face to get somewhere. That's your aunt Nora all over. She taught you to write, though I can't remember why, since I was the schoolteacher. Nora was never as good in school—not slow, just scatty. She always had her mind hopping on to the next prank she was going to pull. She was never afraid of anyone, not even our stepdad, with his lumpy shaved head and his fiddle collection shut up in the china cabinet like some hillbilly gun case while our grandmother's good silver spotted on the sideboard. He had a big cigar box with all his war souvenirs in it, and when he was in a good mood, he'd take out two yellow molars that looked like



markers for a board game. They were Jap teeth, he told us. Inside each of them was a plug of gold. So yellow's good for something, he liked to say. He claimed he'd pulled more out of the mouths of Japanese soldiers and traded them during the occupation.

"Sure you did," Nora told him. "Maybe I'll take them downtown and buy myself a beanstalk."

"What's the occupation?" I asked. That's how you knew I'd be the schoolteacher.

I didn't believe him either, but I had my own theory: these were my real father's teeth—all that was left of him after the hospital got done. I used to think that if I stole them and left them under my pillow at night, Papa would come back—sort of like the tooth fairy in reverse. Only now I always pictured him as Japanese, his eyes stretched so tight I could barely see the pupils flickering under the lids. I closed my eyes and smelled the smoky underarms of his winter coat. I was forgetting him already. Everything had been smeared over with the raw-egg-and-catfish stench of my new stepdad instead.

Just be thankful, Patty, that you've got a mother and father, the original pair, no breaks or replacements. We may be a little chipped, but we're still something to come home to. Or that's what you thought in the summer after third grade, anyway, when you insisted on going to Blue Bird Camp and got all tangled up in the daisy chain. You were quick enough to pick up your Flintstone pencil then.

Dear Ma,

Camp is hot and dumb. They make you wear your undershirt all the time. They don't have any ice cream truck. I'm in the daisy cabin and my best friend Julie is a buttercup. Everyone knows the daisies are the dumbest.

If you let me come home, I'll stay out of your hair. I won't say how summer is so boring and I don't have anything to do. I can play kickball and listen to my records. I can make a fort with Nelson and go to musyum day with Aunt Nora. I'll be still when you comb my hair. I promise. No one combs it here and just think how many nots I'll have if you make me stay.

Love,
Patty

Such a little charmer, you were. Nothing about I miss you, I love you, I don't like it here alone. But then you made a new friend, learned how to tie-dye your undershirt with sumac leaves, became a regular folk hero when you got stung by a dirt dauber and watched without making a sound while the hydrogen peroxide fizzed up on your arm like an exploding soda.

By the time you got my letter, you didn't even care.

Dear Patty:

It's three days since you left, and it's still noisy around here. All your brothers miss you. Cheeta growls when anyone tries to sit in your chair. Your dad says he gets sleepy early because he doesn't have anyone to pull his leg at night.

Remember how you wanted to join the Blue Birds, even though your dad said you were still too little? You liked the camp uniform and the shiny canteen. Now you're a daisy, and I'm proud of you. I'll call up on Wednesday to see how you're doing. Then you'll be halfway done. The cake will be half gone. When you eat the last crumb, I'll be right there to help you, and you can save a little frosting for me.

Love,
Ma

NEXT comes this pile of postcards you sent when you went out west with Nora. She'd just broken up with that garage mechanic and had to drive clear across the country to clean out her lungs. So naturally she settled on California, where she claimed she had spent the most spiritized years of her life, back there in her spinach-salad days. I

never had much faith in Nora's driving. She was too busy talking to see the road. I still believe she did it by vibrations, like a bat. That's what they mean by "blind as a bat." The creatures are really just glorified rodents sailing around on sound waves in those big dark caves. They navigate the noise, like you used to do coming home after a late date, sensing your way up the stairs and through the hall, wafting past the bedrooms on one snore after the next, all of them off-key and slightly out of kilter, until you got to the end of the hallway and slipped through the half-open door of your own room to plop down, fully clothed, on that unmade bed you called an office. Of course, this bat business is the kind of information you used to get from an education, not the stuff they teach now about social diseases and Native American rituals on crack. Back then we wanted to learn something about the natural world. All except Nora, of course, who'd rather take her chances just feeling her way.

So Nora ditched the mechanic when he asked where she lost her virginity—a horseback-riding incident or a regular tractor pull?

Of course, I guess that's not the story she told you.

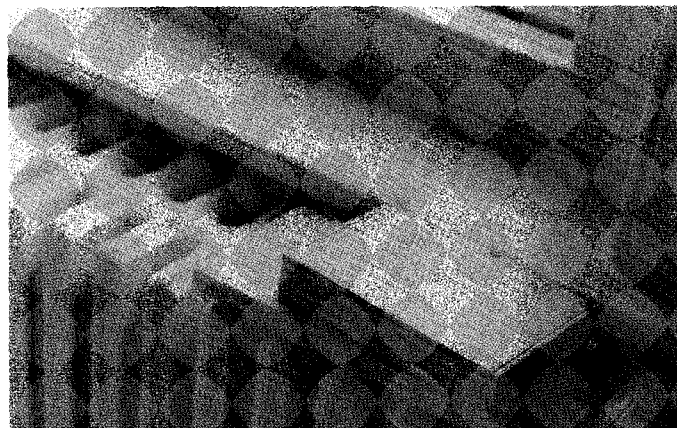
The men she got involved with—well, I don't know how she expected any better. Your dad never liked that mechanic; he couldn't believe your aunt would keep company with a man who couldn't even write his own kiss-and-make-up notes but always asked me to help him on the sly.

This time I could see it wasn't going to do any good. Nora got the idea she needed to get out of Windy Corners again—out of the county, out of the state—and explore the new world. The Petrified Forest, the Trail of Tears, the Fountain of Youth. Getting it all mixed up, in her usual jumble, as if history were just a scrap box she could pick and choose her own quilt pieces from. She wanted you to be her spirit guide, she said. You were an old soul, and she was a young one. She was asking for only two weeks. Your dad wasn't too keen on the idea. I had to promise him six steak nights in a row to manage it. And even then he kept pestering me about what I thought my loopy, sluttish sister was exposing you to. "Don't pull my leg, M," he'd say. "Just what do you think goes on out there in the land of sky-blue nudies?"

Dear Ma,

This is the salt lake. People here have two wives and they can get baptized after they're dead. I waded in the water until my legs came out white. Then I licked my knee so I could taste it, and it was just like a pretzel at home. Aunt Nora says she knows it feels good, but could I please stop. Right now. Just for her, pretty please.

Love,
Patty



Ma,

Yesterday we saw a dead turtle in the desert where we had our picnic. I couldn't eat my peanut butter and marshmallow sandwich. But Nora took it back to the motel and soaked the shell out in the sink. It smells funny. She says she's going to keep it in her apartment for a moment of Morty. I think she feels bad about him. I miss you too. Say hi to Dad.

Love,
Patty

Ma,

We're at Las Vegas and there are all these places kids can't go in. We have to play the little slot machines outside. They roll their eyes at you till you come up with a cherry. I wonder why they pick that fruit, Nora said. We won \$17.75 and went out and bought ourself a bead purse and a moon pie.

Love,
Patty

Dear Ma,

Now it's finally California. All the trees are funny shapes, like in Dr. Seuss. Or else they're bigger than me and Nora put together. They can build a tunnel through the big red ones. I get a headache when I look up at them. Nora wants to write now.

Maisy—Your little girl is a good coconut. She never litters and she washes her hands after every meal. Maybe she washes them too much, if you know what I mean. They say that can be an indication of something or other.

We're in the land of giants. It makes my little man troubles look like small potatoes. Keep peeling, sister. And take care. Don't forget to check under those fingernails.

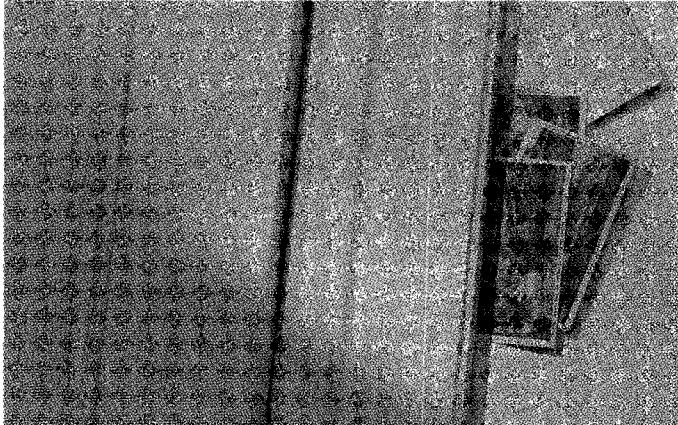
Love,
Nora Patty

Nora never could keep her eyes off my papers. At home she kept sidling over to my half of the room, shaking out my schoolbooks or groping through my trash basket. She used to claim she was doing an art project and needed a Kleenex box or a toilet-paper roll. But I was wise to her, even though she was three years older. She wanted to know my secrets, just because she was too free and easy to have any of her own.

Dear Maisy,

Patty doesn't know I'm writing. I wonder what you'd think about letting her live with me for a while and getting her out of the corral with all those brothers. From what I've seen of the situation, I think it would be safer and cleaner all around. We get along super, and I have the time to take her places and tell her the things a girl needs to know. I remember what it was like for us, and I think how sad it must be for Patty, not having a sister to keep her honest.

Love,
Nora



Well, I sat there with my scissors still in my hand and cried so hard the tears dripped onto the construction paper on my lap, bleaching out little islands in the blue. I'd been cutting out a bulletin board for my summer-school class while your dad watched a baseball game on TV. It was a beach scene with striped umbrellas and fat men in old-fashioned swimsuits. There was going to be real sandpaper for the background, and for each book the kids read they'd get to put another sea creature—dolphin, jellyfish, octopus—in the water. I wondered if you and Nora were sighting whales. I wondered if you'd stop when you got to the ocean, or just keep traipsing over to the Orient and give the Japanese an eye-opener. That was a trip I still thought about taking, maybe for a twenty-year wedding anniversary. But I'd never get to go with my own girl.

Anyway, I'd wanted to go in to school that day so I could get the corners right, put the board together as I went. The administration had been on us about teacher accountability, and bulletin boards were about as far as their observations ever developed. But your dad had told me that if I couldn't get my work done on the weekdays, I'd just have to do it at home. He needed company while he watched his games. That was your dad: he liked to have someone minding him even when he was sunk up to his eyeballs in a deep, dark sports funk.

I looked at Nora's letter, and I wanted to cut it in half. But what I did instead was cut a paper fish out of it, saving all the

print. I knew no one would ever believe she had the gall to ask a thing like that from me. I wanted to preserve the evidence for arguments later on.

"What are you sniffing about over there, M?" your dad asked. "Are you finally missing the baby as much as me?"

"I just can't bear to see your team get beat so badly," I told him, and he left it at that. Your dad would never understand anything as complicated as your aunt.

But you just might, so I'm sending this letter, too. Maybe it'll untangle some of the knots you've got tucked up in your hat about Nora and me.

AFTER California you two hurried home pretty fast, no souvenir stops along the way, and you stayed stick-still in Windy Corners for a good long time. Nora never mentioned the letter, as if she'd forgotten all about it. She got a job at the courthouse, transcribing trials, which was about the only gainful employment demanding enough to keep her busy, given her typing speed. She started seeing the bailiff; you started junior high.

That was your great period of scented stationery, five colors of ink in a single pen, a leather diary under the radiator in your room, a compact with four cakes of perfume, all of them the sickly fruit flavors that reminded me of teenage sweat. It was the same smell I used to leave in your aunt's party dresses when she was out on a date and I tried them on, wanting to do something to make myself feel special. I wasn't prying. I just wanted to be pretty, was all.

Those days I was running across the same smell in your laundry, and it made me nervous. The boys' stuff I could handle—the sour T-shirts, the cheese-rind socks, the smears of soggy serial dreams. It was all regulation. But the other was something I wasn't prepared for. It just came out of nowhere and whapped me upside the head: spring fever, lemon chiffon, sticky fingers, key-lime pie. I remembered squirreling my stained panties under my mattress. I remembered a girl who stood in front of me in the lunch line—how the static electricity in her glittery brown Rapunzel hair made it fizz out and tickle my face; and I thought that was the sweetest feeling, what people sang about, and that it had nothing in common with the things I had to do for my stepfather at home.

Sorting the laundry one day, I shook a note out of your hand-embroidered jeans. It was written in green ink on a pink rectangle torn out of your autograph book. Your handwriting had changed by then: rounder curves, more curlicues, whole circles dotting the *is*—just what you'd expect from a thirteen-year-old. We don't let them get away with this kind of thing down in the lower grades.

Dear Jill,

Salut, oh foxy one. We've got a butt-kicker sub in French class. He's making us conjugate verbs: Je fuck, tu fuck, il fuck, we all fuck for good luck. It sucks. This guy is sick. He keeps touching his chest like he's trying to feel himself up. Wait—I had to stop because he came over here and wanted to “check out my homework.” These guys'll do anything to look down your shirt. But I surprised him, huh, 'cuz there's nada in there.

Let's go down to wrestling practice after school. I'm going to take Jerry today, and you can give old Craig a workout. That'll keep them going. *A bientôt, ma chérie*.

Luv,
Pade

P.S.: I got a new pen—snotgreen—what do you think?

P.P.S.: You look fab in your push-up B-cup. I wish I could borrow them sometime.

I slammed the lid of the washing machine and slapped the note down on top. Then I reread it, with the machine filling noisily underneath my elbows. That's a trick my stepdad taught me, and not the only one either. If you've got to blubber, he said, you'd best hop up the Hoover and run it on full throttle. Otherwise your mother will get suspicious and send you off to live with the crude side of the family.

It was a bumpy ride, that note. You didn't sound any better the second time. I didn't recognize you—but who else could it be? Only one teenage girl lived in the house that I knew of. One set of dirty electric curlers in the bathroom, one size and style of training bra in the wash, one pair of saddle shoes at the front door.

But I'd never get used to this “Pade” who came in and swallowed up my baby. It isn't even a name, as far as I can see. Just a long, lazy syllable waiting for someplace to lay its money down.

I went up to your room, where I knew I'd find you, snuggled up to the radiator in your Hawaiian T-shirt and tie-dyed knee socks, staring at a magazine. The air ticked around you, thick with some amazing insect song inaudible to the adult ear. I watched through your half-closed door. You shifted and stretched one leg out, pushed your toes into the sweet space between the mattress and the box spring, so I could see you had on the mod polka-dot panties you'd bought at the mall, a grainy yellow bruise disappearing under the red elastic. The leg was long, its shin as sleek and bare as the blade of a threshing machine, its thigh still covered in fine blonde down, and I couldn't believe, after all I'd done, you could turn out so perfect.

Then I remembered I had to punish you. I pushed your door open so hard it bounced off the wall and hit me on the ankle on my way in. That only made me madder, as if my

own house had turned against me, and I grabbed the first thing I could find—a soft sponge curler matted with strands of butter-blond hair—and stuffed it into your half-open mouth. Then I pulled the magazine out of your hand and slapped your smart leg down with it.

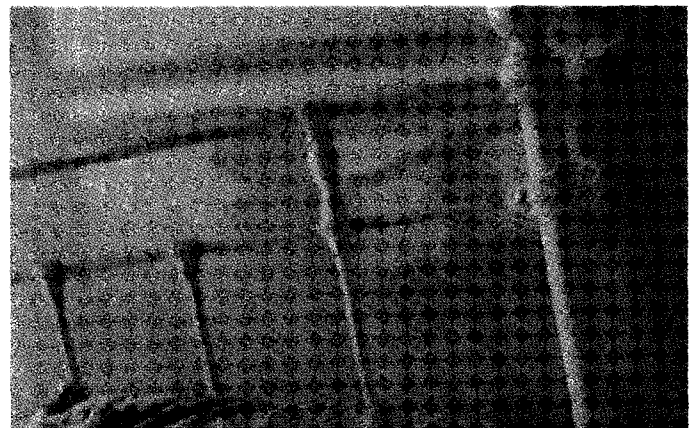
You didn't know what was happening at first. Your face went soft and then hard, and you spit the curler out on the floor.

I picked it up again, dustballs and all, and pushed it back into your mouth.

That's when I saw your dad look in at the door. He was carrying a plate of leftovers and a newspaper, and he stopped for a second, rolled his round head around the corner, blinked at me, and then bulldozed off in the other direction.

I picked up the magazine and started hitting you again. I'm not proud of it, Patty, but it was all I could think to do at the moment.

You just sat there and took it. Until something turned in you—I could almost feel your cylinders grinding over—and you slapped back. Not hard, but enough to let me know you were waking up.



My face stung. The only person who'd ever slapped me like that was my own mother, and even that took her a good long time. I dropped the magazine and sat down on the bed.

“We have to do some talking, girl,” I said.

By the time Nora came over for cards that night, you were sitting at the kitchen table in your robe and pimple cream, drinking hot chocolate and copying out sentences:

I will not speak or write obscenities.

I will not refer to implied sexual activities.

I will not pass notes in school.

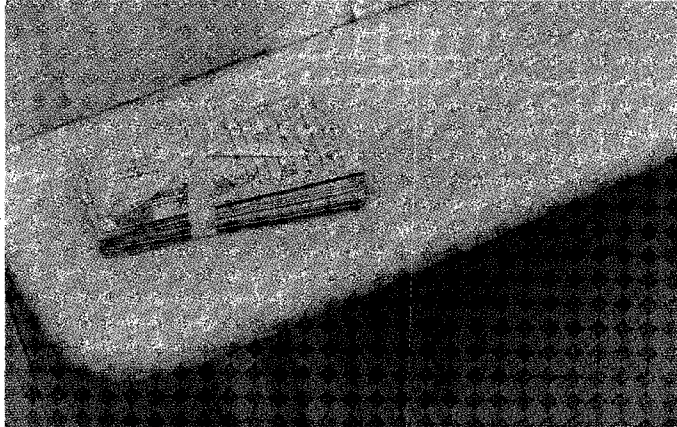
“What's this?” Nora asked. “The Girl Scout code?”

You looked up, squinted your eyes at me, and went back to your writing.

Then your dad passed through the kitchen with a newspaper and smacked Nora on the bottom with the rolled-up

sports section. She gave a jump, whacked the paper out of his hand, and practically landed in my lap while he retrieved his property and strolled on into the living room, where Jim already had the TV tuned to the proper game.

"This is a little home remedy for wandering penmanship," I said. "Patty—or, rather, Pade—has been writing dirty notes at school."



"Hmm." Nora straightened up and swung her car coat over the back of a chair. "Maybe she's bored. They don't even get up to calculus in this two-horse town."

"Somehow I don't think that's the problem. What about you? I suppose you would've been valedictorian if things had just been a little more upscale?"

Nora took out her lipstick and tested it on a paper napkin. "You never know." She kept marking the napkin, reshaping the lipstick till it had the stiletto edge she liked. "I bet Pat just needs a little intellectual stimulation." She touched up her fuss-budget lips and then started in on you. "How's that, doll? Looks stellar. That's what we say in the law biz now."

You stared. "I'm not talking, if you didn't notice."

Nora gave me the look. "That's okay, sweetie. Then you'll keep your lipstick fresh."

"That's not all," I said.

Then Nora pulled another napkin out of the dispenser and scrawled on it in lipstick.

I will keep my mouth shut.
I will be a good daughter.
I will not talk back to the teacher.

The kitchen was quiet, and we could hear Jim and your dad in the next room. The crowd at whatever game it was worked up to a long, frantic cheer, with your dad and brother barking along: old point and counterpoint, senior and junior.

I pushed the napkin away.

Nora put her hand on your shoulder. "I'll teach you short-hand next time, Pade, honey."

For a while there you and I didn't speak, just communicat-

ed in refrigerator notes. When I went off to school in the mornings, you were still asleep, and by the time I came home, you'd be off shopping or flirting in another time zone. I told you what chores needed to be done; you wrote back and said what we needed from the grocery store, how much money you wanted and why, what your father felt like for dinner. You might as well have been living with Nora. I finally gave in and left a note behind your radio, where I was sure you'd find it.

Dear Patty:

This has got to stop. I'm your mother. I'm on your side. Now go look in the lint compartment of the dryer.

Love,
Ma

In the dryer another note told you to go to the side pantry, and so on, until you finally found the fancy white garter belt settled in the nest of tangled pantyhose in the top drawer of your bureau.

"Well, I know you're growing up," I said when you came into the bedroom and kissed my cheek. Your skin was so elastic that the garter belt would never put a dent in it. Your breath was sharp and minty over a whorl of pheromones, so I wondered whether you were still covering something up.

PROBABLY so, because not six months later you were acting out in school and I was getting reports from the principal.

Dear Mrs. Ballard:

I am sorry to inform you that Patricia has three unexcused absences from school. In addition, I've received reports of smoking, back talk, and illegal activities. Patty is one step away from complete suspension.

Sorry to have been the bearer of bad news.

Sincerely,
Arnold K. Loftis, Ed. D.

Don't let that fool you. Arnold loved dictating that letter to his secretary, sitting there in his swank oak office in the new junior high. Arnold had had it in for me ever since I shamed him at a school-board meeting. He'd blamed his problems on incompetence in the lower grades one too many times. So I pulled out the stats and set them out in primary colors for the whole blessed assembly.

"Actually, students' performance drops significantly once they get to your fine institution," I said. "Maybe you need to do a little teacher accountability up there, instead of spending all the cash on that fancy indoor/outdoor carpeting and a new swimming pool."

Arnold bit his pen. He started with the cap but then moved

on to the nub end and started teasing the plastic stopper with his capped yellow teeth. He finally extracted it completely and spit it out into the aluminum ashtray on the desk in front of him. Meanwhile, the ink had spilled on his hands, blue speckles—the leper showing his spots. He went to rub his face and came up with a blue beard. I'd always suspected as much of him.

And now here he was, salivating over your discipline problems. I could just see him casing your files, rubbing the grade reports and aptitude examinations over his puny crotch, eyeing your third-place speech awards in the new plate-glass trophy case, contemplating suspensions, home conferences, and psychological examinations.

Dear Dr. Loftis:

I'm sorry if Patricia has been making a nuisance of herself. She's in that difficult phase between detachable mittens and handcuffs. I'm doing my best.

Sincerely,
Mrs. John J. Ballard

Dear Mrs. Ballard:

I take it you are beginning to realize the behavioral difficulties inherent in this developmental phase. My guess is that Patty's acting out her frustrations and anxieties. I suggest you take the time to sit down and write a case history of your daughter. We can proceed from there. This should give us some documentation to work with.

Best wishes,
Arnold K. Loftis, Ed. D.

I didn't like his implications, but I figured I'd have to come up with something, just to keep the man in paperwork. I even took a sick day to contemplate the subject. After the whole crew cleared out that Wednesday morning, I made a pot of my special brew, got out your baby book and a set of notecards, and did some long, hard thinking. Jim was the wise one, Aaron the sweetheart, Don the bully. Nelson was the kid you catch with the lights on and some important household appliance spread out over the floor in pieces at 2:00 A.M. You were just the girl. You talked at ten months, walked at fourteen. You sat at the kitchen table and waited for the dust to clear so that I could go over and sharpen your crayons. You told me stories about trolls and princesses. You went out for ice-cream cones with your aunt Nora, loved tall boots and orange slushes. You got gum stuck in your hair.

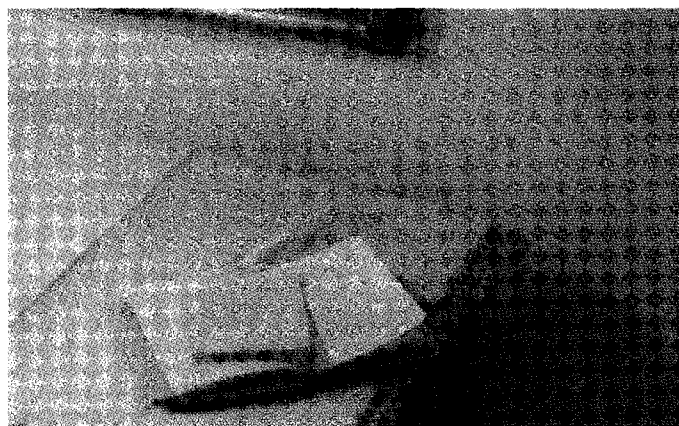
It's not much to go on, but it's all that was there.

All five times I'd hoped that I wouldn't have a girl. I would sit in the bathtub and baste my big gut with scalding water, soothing the back pains and trying to shift the position of the groceries. Low-lying meant a boy, supposedly. "Puppy-dog tails," I'd say. "Axle grease, pigskin, foreskin, Indian chief." It worked, too, all but the last try, when I must've slacked off

in my method. Then out you came. Surprise. Like I'd never had a kid before. It was back when they still did breech, so I didn't have to put up with a C-section. But what happened was even worse: nineteen hours of hard labor. Then you came into the world sitting down.

This should've prepared me for your teenage years, I guess. Not that I wanted you any different. I just didn't know what to do with a girl. I only know the facts, Patty.

WHEN I was just a girl myself, I used to sit down at bedtime and try to figure out those facts. I'd found a big black ledger among my real dad's stuff, and I kept it hidden in my bottom drawer, under a layer of bobby socks rolled up as fat as snowballs. It kept company with my dingy garter belt, my savings stuffed into the toe of a ripped nylon stocking, my reversible douche-and-hot-water-bottle, my costume jewelry, and my Girl Scout awards. That old ledger was huge, a real dinosaur of bookkeeping, with gold-rimmed pages and the musty rainy-day smell of back rooms. Papa was a restaurant supplier, and he sometimes took me out on follow-up visits to the regular customers. Our favorite was an old icehouse behind the Squires Hotel. You know the one—it's been a junk store, a disco, an electronics wholesaler, and



I don't know what all in the past fifteen years. But back then it was still a family operation, and they'd always give me a free snow cone. I loved to squeeze Papa's hand while I watched the syrup soak color into the pale shaved ice. I thought it was magic, I guess, and that if I let go, the red or blue juice would seep back out again, leaving me standing there with a cone full of the nasty saltwater your old ma pours out after making a barrel of homemade ice cream. Once, the man behind the counter ran out of ice chips, and he took a scoop and a bucket out from behind the counter. Then he opened a huge, heavy door, like the door to a vault. Inside, I saw more ice than I could believe—tall totem poles of it standing up in the middle of the room, long skinny coffins on

the floor, stubby blocks stacked on top of one another. All gleaming and glistening like the river in winter.

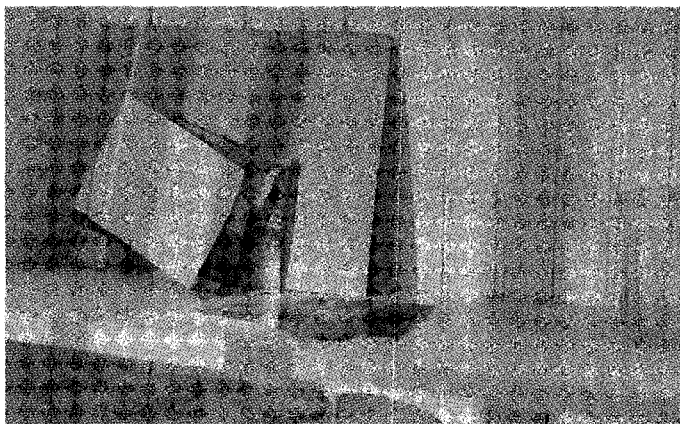
"Look there, Maisy," Papa said. "Think that'll make enough snow cones to keep you in business?"

I could feel the cold from the room, and a shiver brushed across the back of my neck in a long, drawn-out wave that I still get when I pick up a new piece of information. I focused on the gleam from one tower of ice until I could make it bend and buckle. I felt my father's rough palm against mine. It was the first time I knew there was a number you couldn't count to, and that it could feel so good to be confused.

After he died, every time I picked up the ledger I saw that cold room again. Sometimes I imagined that was where he'd gone. Our papa was a practical man. He wouldn't have had much use for a heaven made out of puffs and lace and cotton wads. I was sure it was a land of solid assets where he was. I pushed my finger down the column of figures:

industrial-strength mixer	\$4.95
cast-iron frying pan	\$1.50
Dutch oven	\$13.75

Over the years the columns had changed some. I recorded, in stages, the number of times I brushed my hair at night, the boys I liked and in what order, the clothes I intended to buy



myself whenever I won the American Legion speechwriting prize. Now, keep in mind, this wasn't a diary like yours or your aunt Nora's. I never went for anything as girlish as that. I would just keep track of things. I had read all about Ben Franklin, and I wanted an almanac of my own, where I could show how much I'd progressed and what I'd made of myself. That way, when I finally left home, no one would be able to tell any lies about me. Ben Franklin had all sorts of sayings like that. I wrote some of them down.

Then, one day, I noticed that someone else had been sneaking into my book. Under "A stitch in time saves nine" they'd written, "Stitch your wagon to a star." Beside "A penny saved is a penny earned" they'd added, "A diller, a dollar, a

Saturday-night scholar." Someone. It was obviously Nora, with that sprawling hand that looked just like her taste in clothes. I was furious. I felt like I couldn't keep anything for myself in that house. I went right over to her side of the closet and pulled out her new red formal. It was low-cut, and it had a band of accordion pleats stitched close together at the cleavage and giving way to big chiffon wings over the shoulders. She was so skinny that she looked like a dragonfly in the thing. I touched the chiffon, and its angel-hair texture only made me angrier. I snatched down the zipper, hoping I'd rip it accidentally. But no such luck. So I took off my clothes and tried the dress on. In the mirror I looked just like my name: mazy, lazy, lackluster, plump. No wonder I was the one staying home.

I saw the nail clippers on the nightstand, and I started clipping into the neckline. Opening and opening, as if I were shucking an ear of corn and I was the poor country cob inside. When I finished, I threw the dress over a hanger and picked at the tiny cuts on my shoulders. They looked like bug bites. I'd seen worse in my time.

For days I waited for her to corner me. But a formal is a tricky thing: you can never tell when it will turn up. Meanwhile, I got more notes in my ledger.

He doesn't like perfume.

He can't handle whiskey.

The library's open till nine on Friday nights.

They were done in pencil, and I erased them as quickly as they came. But I could still see their spidery shadows whenever I went to make an entry. Smoky patches on the starched yellow pages. Nora was always out in those days—dating sometimes, but mostly just stretching her allowance on slow sodas at the diner, becoming a professional busybody and french-fry thief.

Mama isn't asleep when she says she is.

He was never in the war.

Rinsing out with vinegar won't do a thing.

Then Mama came in one night and shook me awake. I was a heavy sleeper; the first thing I knew, I felt a weight on the bed, lighter than usual. Then something flimsy touched my face—a sleeve, a hand, the smell of menthol mixed with linseed oil. I looked up, expecting the old bald buzzard head and the hawk nose that got sharper as it moved in close, and saw her face instead—its flesh slicked down to the bone. That's when I realized that she knew what had been going on.

"Where's Nora?" she asked, still shaking me. "Where's your sister?"

"I didn't want to," I said.

"It's after three in the morning. Where is Nora? Where has she got to, girl?"

"I was asleep and I didn't know what he was doing."

"Maisy. Nora. Where's Nora?"

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I looked over to her bed, slipping out of its white chenille spread. On top her sock monkey lay with its face pressed against a satin bolster. A book sat on one corner, and a single house slipper on another, as if holding down a picnic blanket on a windy day. Nora. Out in the middle of the night. Alone.

Then, when I finally understood, that's when Mama backed up and slapped me. The tears started up behind my eyes. No matter how many times he touched me, only she could make me cry. "That's for your smart tongue," she said. "I'm not going to ask you again. Where is she?"

She pulled a note out of the pocket of her robe and handed it to me.

Dear Mama:

I'm off to tackle the world. You can give my other clothes to Maisy. I won't need them where I'm going. Don't ever let them tell you I don't love you. But then, I wouldn't expect me back anytime soon.

Love,
Nora

My mother's hands wove together in front of her, just aching to get the letter back. Her fingers were short and arthritic, speckled with sunspots, swollen at the joints. Her right thumb had been sewn over at least three times in the blue-jean factory where she was working to save up for our college tuition. Its nail was split like a cracked peanut—and all for a girl who wouldn't even finish high school.

"Give it here," she said. "If you won't talk to me, I'm going to wake up your father."

I wish I could tell you I was sad, or worried, or even guilty. But what I really felt was mad. Maddier than slapping mad, madder than punching. Maddier than my stepfather when he got down to the last layer of clothes under the covers and found out that the Redcoats had landed before him and he wasn't going to be occupying anything that night. After all, I was the one who was saving, the one who was planning, the one who deserved to go. But Nora had beat me to it, without ever giving me any idea. She never even noticed that I'd cut up the dress. As usual, her mind had been wandering on to other things.

Mama's voice shrank and then stretched out again.

"Sugar, can't you tell me anything? Didn't she leave you anything?"

Then I remembered. I got up, went over to my bureau, and started tossing socks. I dragged out the ledger and skimmed through the pages, slowing down toward the end. Everything was gone, every curl of her handwriting erased. Every bit of Nora brushed away.

I dumped her drawers out on the rag rug.

I tore her dresses off the hangers.

I pulled back the covers and lay down in her bed, listening to the ruckus already starting in the next room. The sheet was cool under my legs, and I rubbed my heels against it, burrowing in, settling down for the long haul. Because this was going to be even tougher from now on.

Now that I could never leave my mother, like the two of you have done.

SO, Patty, that's why I couldn't find a word to write about you on that last Wednesday. I knew I couldn't do much without the facts, and the facts were just what I could never say. I slammed the baby book shut on my finger. Someone had been playing games with me. I drove to the junior high in a flurry, pulled into the faculty lot in my old gray sweatpants, my hair still set in orange-juice cans, and dove through the lobby with the crushed green carpet and the skylights and dying yellow trees. In his office Arnold K. Loftis was shooting a golf ball into a Dixie cup. His desk was littered with fast-food wrappers and gag gifts. On the oak-paneled walls were posters and calendars of international cheesecake in educational poses in front of tourist landmarks.

"Come out and say it like a man, Arnie."

"Well, Mrs. Ballard, I didn't expect to see you today."

"I just thought I'd drop by to pick up my daughter. We've got some shopping to do."

"I'm sorry, that's not possible. I've just released her to her aunt."

"And why would that be?"

"Oh, let's just say there are some suspicious factors in the case. Your sister thought Patty might be better off at her home for the time being."

"So you think she's better off living in a one-bedroom apartment over a liquor store?"

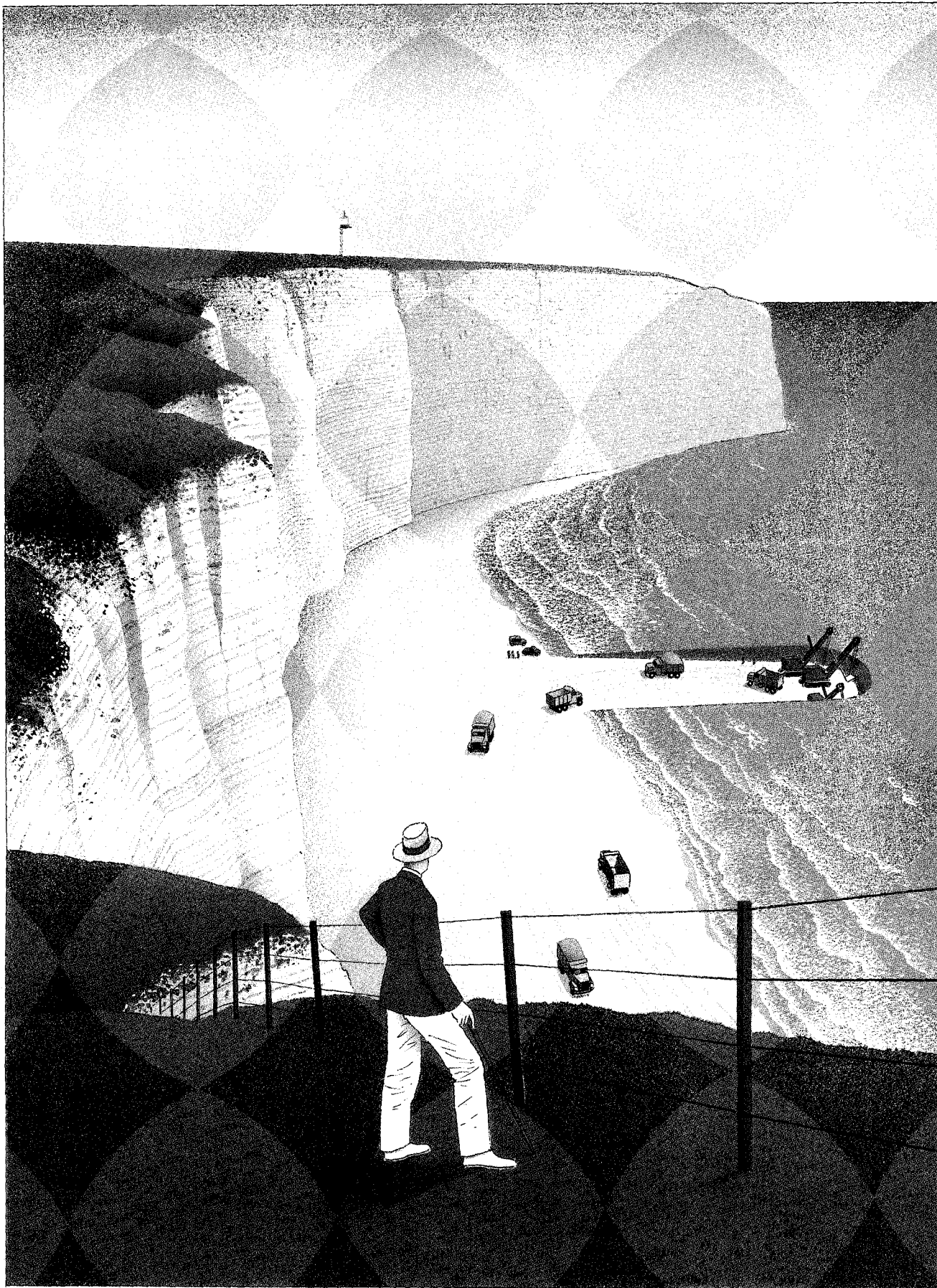
"Well, frankly, that decision's not up to me. But Ms. Cooper brought some interesting facts to light, which Patricia corroborated."

I stood looking at the bright body of an Australian teenager on her bike, pinned to the scene on a long spike of sunlight. "And you believed them?" I said.

He pretended to poke around at some papers on his desk.

"Really, Maisy. I saw the marks."

So I know why you didn't write me all those years, and why this book is so empty, and why you don't want your dad to give you away. But I wonder if you think about your own daughter: what you'll keep from her, what you'll save for her, what you'll just never be able to explain to her. Because, frankly, this engraved invitation doesn't look much like your handwriting, and I've got so much more to say. ☼





I Hear America Scatting

*The new Ken Burns series on
jazz is good television but sketchy history*

PRESS releases for *Jazz*—a ten-part series that airs this month on public television and that the documentary filmmaker and amateur historian Ken Burns has described

as the final part of a trilogy including *The Civil War* (1990) and *Baseball* (1994)—give the title in capital letters. The series practically demands as much, in recognition of its own importance and the comparable importance it attempts to confer on its subjects. Having discovered America twice already, at Harpers Ferry and Appomattox, and then in the general vicinity of Yankee Stadium and Ebbets Field, Burns has sighted it again—this time in the unsuspecting persons of Louis Armstrong and Bix Beiderbecke, the teenagers who danced to Benny Goodman's big band in the aisles of a Times Square movie theater in 1937, and their black counterparts at the Savoy Ballroom, Harlem's "home of happy feet" years before white kids caught the jitterbug.

by Francis Davis

Burns put himself on the cultural map with his series on the Civil War, an impressive piece of filmmaking in which nearly every element worked to spell-

binding effect. The series wasn't just for buffs, some of whom might

have been a little put off by its emphasis on human suffering rather than on battle strategy. Without undue sermonizing, Burns managed to suggest that this country was still divided over race and questions of national identity. But he next made a gabby series on baseball that was awash in sentimentality. I was one of the many who stuck with *Baseball* because it was the only game in town in the fall of 1994: the major leagues were on strike, there were no playoffs and World Series, and I needed my annual fix. I remember wanting to grab a ball myself and bean the next joker Burns coaxed into mugging for the camera and singing "Take Me Out to the Ball Game."

A few seconds into the first episode the

trumpeter Wynton Marsalis—a senior creative consultant to the series, who is onscreen so much that he might as well have been given star billing—informs us that "jazz music objectifies America" and gives us a "painless way of understanding ourselves." His declaration is followed by a montage of the music's major figures over which the actor Keith David, reading copy supplied by Geoffrey C. Ward (who also co-wrote the scripts for Burns's two previous series), solemnly intones that jazz is "an improvisational art, making itself up as it goes along, just like the country that gave it birth." The lecture continues throughout the series, delivered by Marsalis and others. Close to the end Marsalis restates the theme with a little extra spin, as he might do with a melody to conclude a performance with his band. Jazz "gives us a glimpse into what America is going to be when it becomes itself," he says, talking in the way that presidential candidates are prone to do—as if believing that democracy is a form of existentialism.

Marsalis shares Burns's long-standing propensity for overstatement in the service of high ideals. Burns lets Marsalis and others get away with so much in *Jazz*—presenting the character and motivations of long-dead musicians, for example, without distinguishing between legend and actual memory—that his methods as a documentarian are open to question, along with his credentials as a social historian.

© Al Hirschfeld, courtesy of the Margo Feiden Galleries Ltd

AFTER some preliminary flag-waving, Burns's new series begins with the hoariest of creation myths: that New Orleans was the single birthplace of jazz, something I doubt anyone besides Burns and his New Orleans-born senior creative consultant believes. It ends with the latest in resurrection myths: that Marsalis's arrival on the scene in 1980 saved jazz from death at the hands of self-indulgent avant-gardists and purveyors of jazz-rock fusion (we're even shown snapshots of the baby Wynton).

Marsalis's musicianship is above reproach, and his evolution from Miles Davis sound-alike to composer in the rich vein of Duke Ellington has been as interesting to follow as it was unanticipated. What hasn't changed since 1980 is his scorn for newer forms of jazz that he finds deviant and unworthy of the name. As a thinker, Marsalis—like the writer Stanley Crouch, his confidant and associate in producing the Jazz at Lincoln Center program—is a disciple of Albert Murray, an African-American writer usually referred to as a novelist but celebrated more for his nonfiction. Using the terms "jazz" and "blues" interchangeably in books such as *The Omni-Americans* (1970), *The Hero and the Blues* (1973), and *Stomping the Blues* (1976), and rarely stooping to address specific performances, Murray has formulated an aesthetic of jazz that sounds like an ontological creed. "What makes man human is style," Murray wrote in *The Omni-Americans*, and "all human effort beyond the lowest level of the struggle for animal subsistence is motivated by the need to live in style."

This effort includes the blues, which Murray and his adherents define as celebration rather than as social protest or an expression of sorrow. Jazz to them represents an extension of the blues: something either is jazz or isn't, depending on whether or not it reveals an obvious blues sensibility. This sensibility is not exclusively black. Marsalis has been accused of practicing reverse racism (or "Crow Jim," as musicians call it) in his role as artistic director for the Lincoln Center program, but this is unfair. His bias is not against white musicians—he has hired any number of them for the Lincoln Center Jazz Orchestra—but against anyone whose music, improvised or not, he suspects of being tainted by European influences and deficient in the blues. The

problem with this point of view is that it puts the most innovative jazz of the past few decades off limits.

Nonetheless, jazz is principally black, coming as it does "from a consciousness of those who are outside of something but in the middle of it," as Marsalis tells us at one point in Burns's opening episode. He is here echoing another of Murray's tenets, which is itself an upbeat variation on W.E.B. DuBois's notion of African-American double consciousness. The black musicians who invented jazz and their original black audiences were denied the full benefits of American democracy, Marsalis explains, "but that doesn't alter the fact that they [were] American, and . . . that they [had] access to all of the information that Americans have access to." Such thoughts understandably resonate with Burns, whose theme has become America's struggle to live up to its democratic ideals. Burns has admitted to knowing little about jazz going into this project, and he seems to have learned most of what he now knows about the subject from Marsalis. With Crouch and Murray on the board of advisers and serving as commentators, what we're getting is the party line.

THE series sets out to trace the history of jazz from its birth as Negro folk music to its present bewilderment of styles, but pretty much gives up after Ornette Coleman's introduction of free improvisation, in 1959. This may be because that's about the time when jazz ceased to be a sociological phenomenon. In contrast to the dawdling multiple episodes on early jazz and swing, and the single episodes on bebop and its 1950s offshoots, the final episode crams forty years of musical ferment into less than two hours. Although not billed as an epilogue, it resembles one. It also resembles a eulogy, despite repeated assurances that jazz is alive and well, largely thanks to Marsalis. Burns could have left himself more room at the end by being more tough-minded at the editing table—and more tough-minded in general. Does it contribute to our understanding of jazz to know that Armstrong didn't find true love until his fourth marriage? Did we need to spend quite so much time at the Savoy Ballroom?

Nearly every jazz critic I know has been angrily compiling his or her own list of current performers who were unfairly

Who Said That?

A quiz, from the new reference work *Words on Words* . . .

"When people cease to complain, they cease to think."

"I cannot love a friend whose love is words."

"A fool and his words are soon parted."

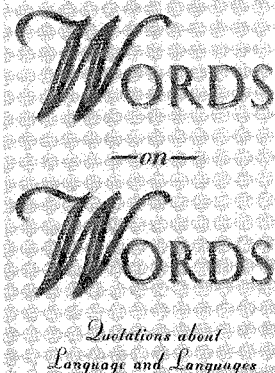
"Slang is a language that rolls up its sleeves, spits on its hands, and goes to work."

"Remarks are not literature."

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omitted from the series. Though my list of missing persons includes Albert Ayler, Keith Jarrett, and Sun Ra, it begins long before 1960. *Jazz* tells us nothing, or very little, about Mildred Bailey, Benny Carter, Woody Herman, Stan Kenton, Lennie Tristano, Erroll Garner, Art Pepper, any of Ellington's sidemen, or any of the arrangers—except Fletcher Henderson—who gave the big bands of the 1940s their trademark sounds. For that matter, many of the figures cited in the final episode fail to receive their proper due. Charles Mingus is hailed as “second only to Ellington in the breadth and complexity of his compositions,” yet nothing is said about him as a link between Ellington and the contemporary avant-garde. That Mingus is brought in at all seems merely in the service of making a point about a growing mood of militancy on the part of black musicians in the decades after bebop. (The same is true of a cursory mention of the Art Ensemble of Chicago.) Bill Evans was the most influential pianist of the past forty years, but all we learn about him is that he once played with Miles Davis and was white. You'd think he was significant only as an example of the black trumpeter's enlightened employment policy.

IN fairness, *Jazz* is enjoyable television. The commentary by the essayist Gerald Early and by the jazz critic Gary Giddins is perceptive. A wealth of great music is excerpted, ranging from Jelly Roll Morton's “Dead Man Blues” to John Coltrane's “A Love Supreme,” and Burns puts faces on it by drawing on an artful assortment of clips. Much of this footage will be familiar to hard-core jazz fans—Duke Ellington musing at the piano (“dreaming,” he calls it) for Edward R. Murrow on *Person to Person*; Charlie Parker and Dizzy Gillespie vengefully ripping through a number after being condescended to by the entertainment columnist Earl Wilson; Billie Holiday and Lester Young ruefully eyeing each other as they perform a blues with an all-star group in 1957, when both of them were staring down death. But it will be new to most viewers, and I dare them to resist it.

The white musicians featured in the series, beginning with Bix Beiderbecke, are invariably depicted as alienated outsiders, but they are treated with respect as bona fide jazzmen. The episodes on the

1920s, which are the most poetic in the series, are essentially the story of Beiderbecke and Louis Armstrong metaphorically calling to each other from steamboats and orchestra pits (they were prohibited from playing together except after hours).

Along with Ellington, Armstrong is one of two figures Burns chronicles from cradle to grave, in what seems as much a bid for human interest as an acknowledgment of their seminal roles in jazz. Ellington, a guarded man who was a master of diversionary chitchat, eludes Burns, but Armstrong is captured in all his troubling complexity. My favorite moment in the entire series is a clip of Armstrong playing “Tiger Rag,” in Copenhagen in 1933. Announcing the tune without looking his audience in the eyes, and appearing to shuffle even though standing still, he really does seem a stereotype of the servile Negro. Then he begins to play, hitting high note after high note with a look of masculine determination. “That horn could kill a man,” the actor Ossie Davis, guilty of only slight exaggeration, tells us several episodes later—though you do have to wonder why Ossie Davis in particular qualifies as a commentator.

Burns is big on sociological context, so the music unfolds against a backdrop of speakeasies and bread lines, dance crazes and world wars, lynchings and civil-rights marches. The series certainly looks good, and it sounds good, too, if you ignore Keith David's overenunciated delivery (he sounds like he was bitten by the same bug that got Maya Angelou) and the melodramatic readings by a host of other actors of newspaper editorials, passages from musicians' autobiographies, and texts by F. Scott Fitzgerald, Ralph Ellison, and Langston Hughes.

There is a good deal of valuable oral history here too: Mercedes Ellington reminiscing about what a curious fellow her grandfather Duke was; Doc Cheatham recounting subbing for Armstrong and being dressed down by Bessie Smith; Artie Shaw explaining his disenchantment with fame; the writers James Lincoln Collier and James T. Maher and two former Savoy Ballroom regulars remembering the excitement of hearing the big bands; Jackie McLean revealing that as a young musician he so wanted to sound like Charlie Parker that he was willing to forgo originality; Lester Bowie joking about practic-

ing trumpet as a child with the window open, in case Louis Armstrong was passing by; Charlie Haden talking about breaking the rules of conventional tonality with the alto saxophonist Ornette Coleman. (I should say here that a few years ago Lynn Novick, who is listed along with Burns as a producer for the series, and Peter Miller, one of two co-producers, took me to lunch to get my ideas about possible interviewees. I may have suggested some of these people; I honestly don't remember.)

But the series features too many talking heads, and talking isn't all they do. With Marsalis as the prime offender, they frequently sing scat to demonstrate something about the music under discussion, getting the rhythm right but not the intervals. It isn't necessarily any easier to hear musicians doing this than it is to hear civilians, and it's a relief whenever Marsalis picks up his horn to make his point. Annoying as Marsalis can be, though, he takes a back seat to the preening Matt Glaser, a violinist who performed on the soundtracks of *The Civil War* and *Baseball* and who turns up every so often to share an insight on, say, Armstrong's relationship to the space-time continuum. Glaser sounds like one of those guys you overhear trying to impress their dates in jazz clubs, only it's us he's trying to score with.

AS much as jazz fans seem to bicker, our typical reaction to a project aimed at the public is not to ask whether it's any good but to ask whether it's good for jazz. In this case the answer is yes. The music is exciting, and everyone talks about it in a way that stirs the imagination. To novices who watch the series and find themselves eager to attend a few concerts or buy a few CDs (even if all that scatting strikes them as the jazz buff's version of air guitar), the debate among insiders about who and what should not have been left out of *Jazz* will seem petty. Music isn't baseball; there are no statistics for measuring achievement, and Burns is as entitled to his opinions as I am to mine—even if his seem to come wholesale from Marsalis and company.

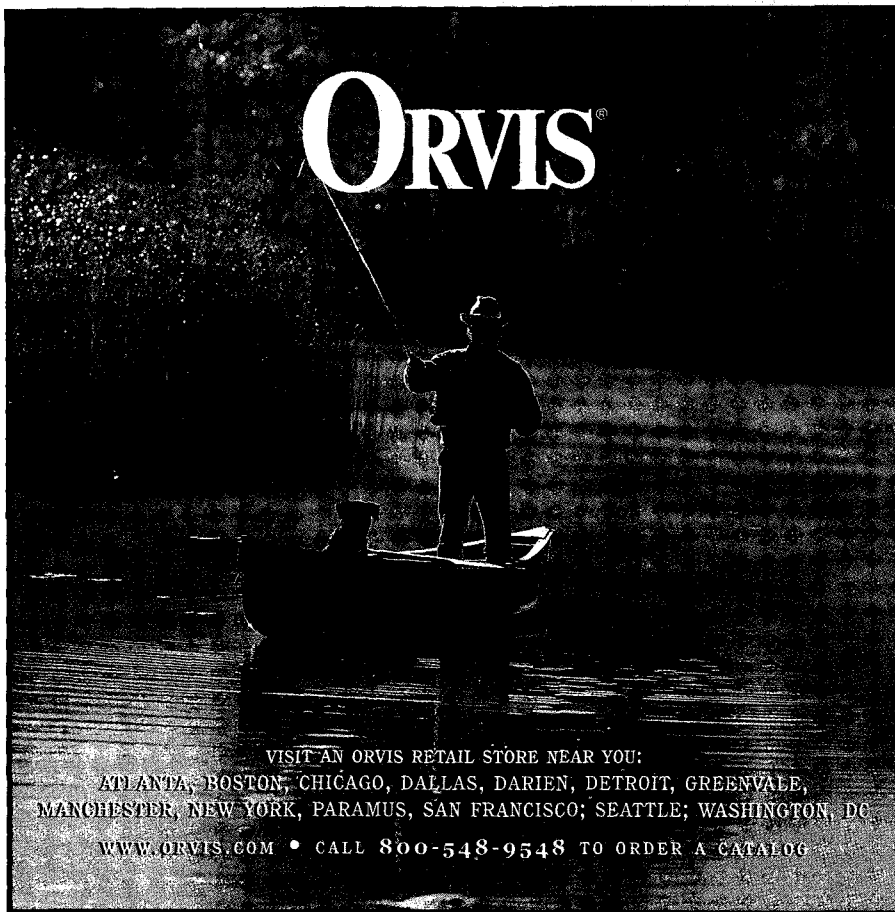
The larger problems with the series stem from the dubious habits Burns has picked up since *The Civil War*. For every person we hear speaking from experience, another comes along to tell us things

he couldn't possibly know. Talking with certainty about events in the lives of Armstrong and Ellington, Marsalis might as well be a televangelist chatting confidentially about Jesus. Of the semi-mythical early-twentieth-century New Orleans cornetist Buddy Bolden, Marsalis says, "[His] innovation was one of personality, so instead of playing all this fast stuff, he would bring you the sound of Buddy Bolden." How could he know? No recording of Bolden survives, and he is said to have played in public for the last time in 1907. As Marsalis speaks, we hear a trumpeter on the soundtrack playing a rollicking blues, with no indication that it's a recent performance by Marsalis. Most viewers will probably assume it's Bolden, and will surely accept what Marsalis says about him.

As in *Baseball*, Burns shows tendencies toward cockeyed legend, cut-rate sociology, and amateur psychoanalysis. Talking about Bix Beiderbecke, who drank himself to death before he was thirty, Margo Jefferson, a columnist for *The New York Times*, suggests that the trumpeter was "harmful" by not being allowed to prove himself alongside black musicians who were his equal or better. But Beiderbecke regularly played and recorded with very good white musicians, such as Frankie Trumbauer, Eddie Lang, and Tommy Dorsey. And in the 1920s Armstrong played with no one of his own caliber either, with the exception of Sidney Bechet and the pianist Earl Hines (and possibly Johnny and Baby Dodds). He and Beiderbecke were ahead of everybody else, black or white.

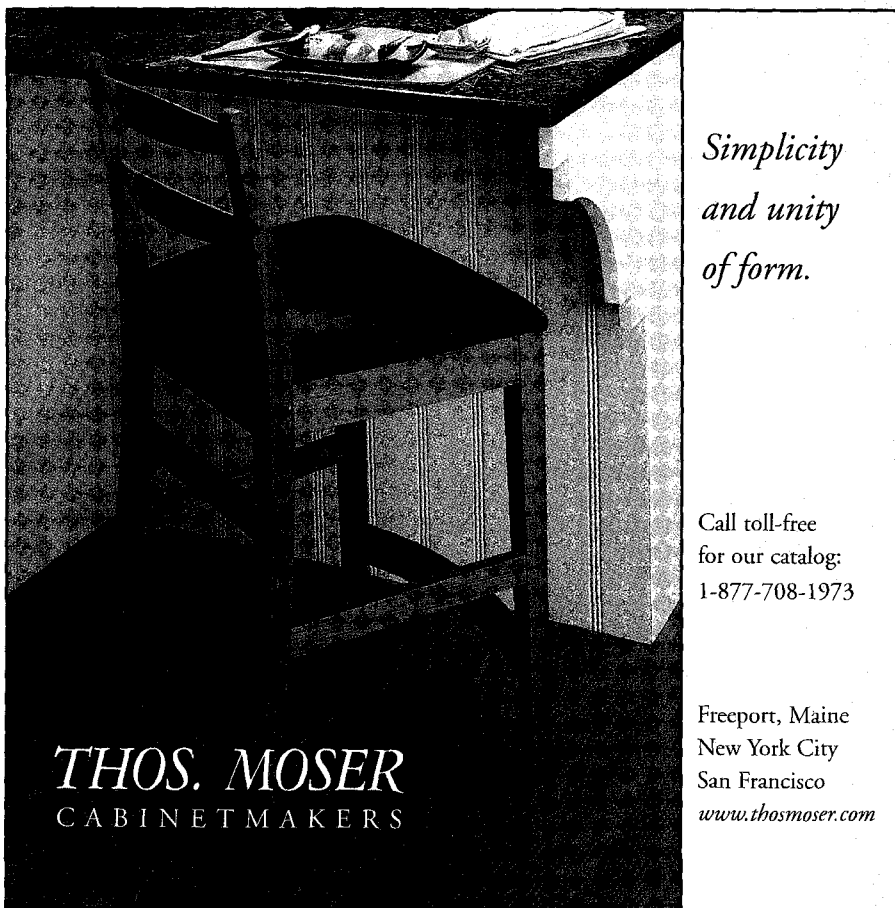
Loosely drifting through *Jazz* are the elements for several smaller and better films Burns might have made, including lovingly detailed ones on Armstrong and the Savoy Ballroom. In taking on the entire history of jazz he doomed himself to incompleteness and superficiality. Jazz is a melting pot of African and European influences that, as Gary Giddins reasonably observes in the opening episode, only America could have cooked up. To insist that it bear the weight of its nation's highest ideals at every turn may be asking too much of it—or of any art form. ☛

See the online version of this article, at www.theatlantic.com/burnsjazz, for links to a collection of Atlantic articles on jazz from 1922 to the present—including a 1988 article on Wynton Marsalis by Francis Davis—and links to jazz-related sites on the Internet.



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CONSTANTINE'S SWORD

The Church and the Jews

by James Carroll.

Houghton Mifflin, 756 pages, \$28.00.

HANNAH Arendt famously argued in *The Origins of Totalitarianism* (1951) that “modern” anti-Semitism as seen in Germany during the Third Reich was fundamentally different from “the old religious Jew-hatred.” The Holocaust, according to Arendt, was a peculiarly modern phenomenon, the horror-spawn of vast, colliding social forces: the rise of the nation-state, the collapse of old systems of class and rank, and the emergence of explosive new technologies of propaganda and mass destruction.

Constantine's Sword is a powerful and splendidly written rebuttal to Arendt's thesis. James Carroll is an award-winning novelist and journalist, a Catholic and a former priest who feels his religion deeply. He has set out to tell “the story of the worst thing about my Church.” It is the story of how Christianity's early self-definition in opposition to Judaism matured into the simmering hatred that allowed believing German Catholics to participate prominently in Hitler's regime and caused the official Church to stand silently by—despite all the assistance proffered by individual Catholics to hundreds of thousands of individual Jews—as Nazi practice escalated from mere organized viciousness to the phantasmagoria of evil that was Auschwitz. It is a story that Carroll offers both as an act of penance and as a call to deal forthrightly with the surprisingly many vestiges of anti-Semitism to be found in the foundational texts and practices of Christianity.



Detail of Discovery and Proving of the True Cross, by Piero della Francesca, courtesy of Art Resources

Carroll, as he warns early in the book, is viewed as a papal critic by many Catholics, and he has clearly taken pains to present his case as evenhandedly as possible, especially with regard to the inflammatory topic of the Vatican's behavior during World War II. (I once had occasion to peruse many of Carroll's sources on this issue closely, and his reading of them seems quite fair.) Eugenio Pacelli—Pius XII—detested Hitler and was no coward. He warned the Low Countries of the coming Nazi invasion and played a significant role in an abortive conspiracy of German officers to overthrow Hitler. Individual bishops and

priests—in particular Angelo Roncalli, the apostolic nuncio to Turkey and the future Pope John XXIII—went to extraordinary lengths to protect Jews, supplying large amounts of money and even forging baptismal certificates. Lutheran anti-Semitism was generally far more venomous than the Catholic variety, and the Lutheran clergy were typically much quicker to fall in line behind the Nazis.

But the indictment of the Church, and of the Pope, remains. Carroll is careful not to frame the question as whether Pacelli should have “spoken out” on this or that occasion. What is at issue is the Vatican's eyes-averted pattern of accom-

modating the Nazis. The only possible conclusion from the entire record is that Pacelli, in order to secure the Church's future in Germany and the papacy's institutional interests, was willing to remain largely silent while the Germans murdered millions of Jews.

The Church, after all, had a history of taking on powerful political leaders. In the nineteenth century Pius IX excommunicated virtually the entire royal house of Italy, and fought Bismarck to a standstill when he attempted to assert state control over the German Catholic Church. Invektive against Stalin and the Bolsheviks poured from the Vatican almost daily. And the German episcopacy, in fact, had barred Nazis from the sacraments until 1933, when Pacelli, then the Cardinal Secretary of State, signed a concordat that seemed to legitimate the regime. At the peak of Hitler's power, in 1941, an outraged Bishop Clemens von Galen, of Münster, forced the government to drop a plan for mass euthanasia of the feeble-minded, the sick, and the old. But criticisms of the assault on the Jews were made only in the most veiled and muted of terms. Hitler and many of his senior henchmen were nominal Catholics, but they were never excommunicated; indeed, until the very end of the war the Vatican never once attacked the Nazis by name. In contrast, Pacelli organized worldwide protests and forcefully condemned collaborationist clergy when the Hungarian Communist regime tortured Cardinal József Mindszenty, in 1949.

Prominent practicing Catholics were salted throughout the Nazi regime, and they were courteously received at the Vatican by the Pope. Hitler's first Vice Chancellor, Franz von Papen, who played a key role in the Nazi subversion of Austria, even received papal honors after the war. Many bishops, notoriously those of Vichy France, were open Nazi sympathizers, and with varying degrees of passivity pastors cooperated in Nazi inspections of baptismal records to ferret out Jews. There is ample evidence that the murderous activities of the pro-Nazi Ustashe regime in Croatia were well known within the Church hierarchy, yet the Ustashe leader, Ante Pavelic, was sheltered at the Vatican when his rule crumbled, and the powerful head of the German College at Rome, Archbishop Alois Hudal, ran a virtual underground railroad for escaping Nazis. There is a distasteful

edge even to many of the Catholic interventions in behalf of Jews (Roncalli's are a notable exception), because they were often to save only *baptized* Jews, as if the religion of the victim were what mattered.

Perhaps the most damning summary of the Vatican's wartime role came from the mouth of the Cardinal Secretary of State, Luigi Maglione, during the SS roundup of the Jews of Rome, in 1943. Maglione called in the German ambassador, Ernst von Weizsäcker, with whom he was on friendly terms, to make an appeal for charity in behalf of the Jews. According to his notes, Maglione summarized the Vatican's posture for Weizsäcker thus: "The Holy See . . . has been so very prudent so as not to give to the German people the impression that it has done or wished to do the least thing against Germany during this terrible war." Indeed.

IT is one thing, of course, to lament the Vatican's moral indifference to the plight of the Jews during World War II. To tie that failure to a broader problem of ecclesiastical anti-Semitism is trickier. Allied governments also had pretty good information on what the Germans were up to and said little or nothing about it. The silence of Franklin Roosevelt, and of Walter Lippmann and other knowledgeable commentators, is striking, as is that of most of the American Jewish leadership, which was preoccupied with Zionism.

Carroll is fully aware of these complexities. As he puts it, he wants to challenge the comfortable assumption of "Hitler's moral isolation from the rest of humanity"—the complacent trick of using "his abject evil as proof of our relative virtue"—but without wrapping the rest of us "in a blurring guilt, as if the perpetrators of the anti-Jewish genocide are not uniquely to be condemned." This is a tricky path, and Carroll does not traverse it without missteps. Although Arendt is surely right that Nazi racial theories were uniquely evil, Carroll occasionally loses sight of the uniqueness. For example, he points out the similarities between Nazi and Fascist theories of totalitarianism but fails to observe that Mussolini's Italy was relatively free of racialism—Jews were rounded up in Rome only after the Nazi occupation.

In marshaling evidence for the Church's special animus toward the Jews, Carroll

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details the anti-Jewish savageries of the Spanish Inquisition but omits the roughly contemporaneous, and more or less equally brutal, depredations against Calvinists in the Spanish Netherlands. And he stretches the evidence to show a direct relationship between the Church's concern with its own power and prerogatives and the intensity of Christian anti-Semitism—arguing, in effect, that the Church's self-definition fed off its antagonism toward the Jews. Sometimes that's accurate, but there have been many exceptions. Carroll himself concedes that at the Council of Trent, the Church's most intense episode of institution-building, the subject of the Jews was “hardly discussed”—this despite the fact that the Inquisition was at the peak of its fury.

But those are relatively rare slips in a long book. For the most part Carroll takes pains to underscore the subtleties of his argument, as if acutely aware that they could be lost in translation. The crudest forms of anti-Semitism and racialism typically didn't emanate from the Church. During the time of the Black Death, for instance, Clement IV issued a bull to squelch stories that it was a Jewish plot—on the very rational grounds that Jews were dying at the same rate as Christians. And bishops were usually reliable protectors of Jews when the fervor of the Crusades degenerated into pogroms. The “purity of blood” theories that originated in Spain in the sixteenth century were at first condemned by the Pope and leading bishops as contrary to Christian doctrine—as the Apostle Paul taught, it was one's religion that counted, not one's race. Shamefully, however, with a change in papal administration racial theories of Judaism gradually spread throughout the Church. The Jesuits, for example, expressly barred candidates of Jewish descent until 1946.

What Carroll wants the Church to acknowledge is that it bears the original responsibility for identifying the Jew as the “other,” thus setting in train the processes that made the Jews ready scapegoats whenever a demagogue wanted to exploit the bloody-mindedness of the mob. The Fourth Lateran Council, in 1215, decreed that Jews should wear distinctive clothing—a measure with ghastly echoes in the Nazi era. Bishops built the first Jewish ghettos, in the hope of converting Jews more quickly by making them more accessible to preachers. The Roman ghetto that

made the Jews so vulnerable to the SS in 1943 had been constructed by popes.

BY far the greater part of *Constantine's Sword* is a veritable archaeological dig to unearth the roots of the “eternal antisemitism” of Christian Europe, which Carroll finds in the canonical texts of the New Testament, the Gospels, which were assembled toward the end of the first century of the Christian era. It was a time when the Romans were engaged in a virtual war of extermination against rebel Jews in Judea; in percentage terms the Jewish death toll may have approximated that of the Holocaust. Part of the Roman tactic was to foment sectarian strife among traditionalists, Diaspora Jews, and Jews who were followers of Jesus. Nero increased the pressure by singling out Christian Jews to blame for the burning of Rome.

Carroll makes a considerable argument (there is no possibility of “proof” with events as distant and as poorly documented as these) that the gospel stories must be understood in the context of the extreme social and political conditions of the time. Just as British pressure on Ireland increased the intensity of intra-Irish hatreds, Roman depredations intensified sectarian divisions among the Jews. Pontius Pilate—an embodiment of such depredations—was known as an especially brutal governor, one of a long chain of sadistic Roman administrators. Crucifying Jews was a Roman specialty. In reprisal for unrest after the death of Herod, for example, the Romans ordered a mass crucifixion of 2,000 Jews, and even refused to allow the bodies to be cut down for weeks.

Yet the gospel stories take special pains to exonerate the Romans from any but the most passive involvement in Jesus' death. When Pilate—implausibly, given his record—balks at sentencing an innocent man, Matthew has the Jews expressly call, “His blood be on us and our children!” In the Gospel of John, the last of the four, composed more than half a century after Jesus' death, when there were surely no living witnesses to Jesus' life, “the Jews” are mentioned far more frequently than in the previous Gospels, and always as Jesus' nemeses: “You are of your father the devil,” Jesus tells them, “and your will is to do your father's desires. He was a murderer from the beginning.” Jesus' diatribe against the Jews

goes on for several pages, and the Jewish crowd that demands his death is rabid.

The curve of rising animosity against the Jews in the Gospels, Carroll suggests, reflects not anti-Semitism in the modern sense but extreme intra-Jewish sectarianism, plus the anxiety of the Christian Jewish faction to counter Nero's charge that it was insurrectionist. The Evangelists were not lying so much as filtering half-remembered events through present hopes and fears. But the fateful charge was written for the ages with a flaming pen—one that, according to orthodox Christian doctrine, was directed by the very hand of God: Jews were the race of Christ-killers.

Once Constantine had effectively placed Christians at the center of the imperial power apparatus, the question of what to do with the Jews naturally arose. Not incidentally, the symbol of the cross, the most dramatic reminder of the Jews' historic crime, became central to Christian iconography. In the late fourth century, after Saint John Chrysostom delivered a series of fiery anti-Jewish sermons (the synagogue was “a whorehouse . . . a den of thieves . . . a haunt of wild animals”), there were violent outbursts against Jews in Antioch and a synagogue was destroyed. The first record of a large-scale pogrom, in Alexandria, dates from about thirty years later.

Augustine finally produced a quasi-tolerant theology of the Jews, in *City of God* (425). He argued that they were not to be mistreated but to be preserved as proof of the truth of the Gospels.

“Do not slay them. . . . Scatter them.”

For if they lived with that testimony of the Scriptures only in their own land, and not everywhere, the obvious result would be that the Church, which is everywhere, would not have them available among all nations as witnesses to the prophecies which were given beforehand concerning Christ.

Augustine's was the theology of the ghetto and of organized oppression—the Jews were a cursed race, doomed to roam stateless to the end of time for their crimes, but at least it was wrong to kill them. It was the same theology I was taught as a parochial-school youngster in the 1950s. (I can remember my shock when I learned of the State of Israel. How could that be? God said Jews couldn't have a state. The nuns assured me that it was probably only temporary.) Though God loved everybody, it seemed, he had reserved particular punishments for the Jews.

CARROLL's style and methods warrant special comment. He is primarily a novelist and freely uses novelistic techniques. He frequently jumps from era to era to shape and frame the story, for example, and he tells us a great deal about himself to establish his narrative voice and point of view. Filtering events through a writer's own sensibility is often a cheap trick to add emotional resonance to a flat tale, and Carroll's opening scene, a very personal account of a visit to Auschwitz, aroused my skepticism. But Carroll has control of his material, and he never slips over the line into mere artifice or self-indulgence. Glimpses of his life as a military brat in Germany, his complex love for his mother and her Irish Catholic pieties, and the mysterious, quasi-erotic aura of Roman Catholic symbolism all add depth and richness to the story. It is his sensibility, after all, that constantly dredges up the questions he forces himself, and us, to answer.

The city of Trier is used as a leitmotif to connect disparate strands of a far-flung story. A 1959 trip to Trier with his mother to witness a rare unveiling of the Seamless Robe of Christ—the garment allegedly worn during the Passion, and the subject of the 1953 movie *The Robe*—awakened Carroll's fascination with Catholic ritual. But the story of the robe also illustrates how the Gospel writers mined the scriptures ("They divide my garments among them") to construct the narrative of Jesus' life. The first Crusade-related killings of Jews took place in and around Trier. The unveiling that Carroll witnessed, moreover, was on the site of a palace built by Constantine just after he had unified his empire under the banner of Christianity. The only other twentieth-century unveiling of the robe was to celebrate the German-Vatican concordat of 1933, shortly after Hitler's accession as Chancellor of Germany. The local bishop, a strong Hitler supporter, was sorely disappointed when the Führer could not attend.

Carroll writes that Jews in ancient Trier used the name "dreifuss," a play on the city's Latin name, to distinguish themselves from native Germans, which leads neatly into a compact account of the Dreyfus affair. We then follow the career of Dreyfus's widow, Lucie, who played a major role in engineering his release and pardon, seeing her as an aged woman, tracking her grandchildren through Europe amid the fanged shadows of looming

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war, until it dawns on us that a favorite grandchild, the charming, politically aware Madeleine, is foreordained to die at Auschwitz.

All of this is brilliantly handled. Palaces and emperors, mythologies, ancient enmities, saints and fanatics, killers and plotters, come marvelously alive in Carroll's hands. At the same time, he takes pains to stay within his evidence, not resorting to the imagined scenes and fabricated conversations that mar so much contemporary journalism. Altogether, *Constantine's Sword* is a triumph, a tragic tale beautifully told, a welcome throwback to an age when history was a branch of literature rather than a narrow academic specialty.

THE book ends with a call for more inward-looking honesty on the part of the Church. Surely Carroll is right that recent official statements from the Church, supposedly repenting of the Holocaust, are self-exonerating and defensive: they point out that "many" Christians assisted Jews whereas "others" did not, and Pius XII is singled out for the wisdom of his policies. Much more than that is required, Carroll insists—not to win forgiveness from the Jews but to pre-

serve the Church's integrity. Carroll is also surely right to demand that anti-Semitic passages in sacred Christian texts, including the Gospels, at least be labeled as such. False and libelous gospel stories of the Jewish role at the Crucifixion should not be at the center of Christian liturgy, even if the Vatican swears that no one any longer takes them literally. In 1960 Pope John XXIII finally expunged references to "the perfidious Jews" from the Catholic Holy Week Liturgy, but there is much more cleanup to be done.

These are not the rants of an angry ex-Catholic; Carroll still feels his faith deeply. The peroration to his book is poignant.

This has been the story of the worst thing about my Church, which is the worst thing about myself. I offer it as my personal penance to God, to the Jewish dead, and to my children. . . . The Christian conscience—mine—can never be at peace. But that does not say it all. This tragic story offers a confirmation of faith, too. God sees us as we are, and loves us nevertheless. When the Lord now turns to me to ask, "Will you also go away?" I answer, this too with Simon Peter, "Lord, to whom shall I go?" ☼

SHORT REVIEWS



The Biographer's Tale

by A. S. Byatt.
Knopf, 304 pages, \$24.00.

Phineas G. Nanson, the grad-student hero of A. S. Byatt's thirteenth work of fiction, has had enough of the postmodern literary theories in vogue at his London university. Putting Lacan and Foucault behind him, he plunges instead into the world of facts, using as his springboard an obscure biography of a Victorian scientist and explorer, Sir Elmer Bole. Nanson's plan is to unearth the true story of Bole's biographer, Scholes Destry-Scholes, about whom nothing is known

except that he vanished into Norway's notorious Maelstrøm. At first Nanson's inquiries leave him stranded in a sticky web of book fragments and false leads. Eventually, however, the pursuit of his quarry lures him into erotic entanglements with Scholes's niece, a morbidly beautiful radiographer, and with a radical Swedish ecologist whose hair is "a crown of golden fire." His sleuthing also lands him a job at an exotic travel agency, Puck's Girdle, where he is besieged by the fearsome snuff-movie enthusiast Maurice Bossey.

Unfortunately, *The Biographer's Tale* is not nearly so ripping a yarn as this

summary suggests. Theory and esoteric allusion dominate the action from start to finish. Byatt remains an author of daunting erudition and precious phrasing. Her characters' names alone—Vera Alphage, Fulla Biefeld, Ormerod Goode—could provide grist for many a semiotic mill. But whereas the author's Booker Prize-winning *Possession* (1990) was able to work these academic concerns into a genuinely affecting story, this novel is too brittle to support the scholarly showmanship she heaps upon it.

—Stephen Amidon

The Hiding Place

by Trezza Azzopardi.

Atlantic Monthly Press, 288 pages, \$24.00.

It's hard to believe that this astonishingly accomplished lyrical account of loss upon loss—"Children burnt and children bartered: someone must be to blame"—is a first novel. Against a drizzly backdrop of Cardiff docklands in the process of demolition, Dolores Gauci, the sixth girl born to a brutal, ne'er-do-well Maltese father and a neglectful, adulterous Welsh mother, untangles skeins of memory, story, and speculation to try to find the threads that tie together her burnt left hand, her vanished older sister, her runaway father and his murdered friend, her mother's insanity, and, finally—as the loss of her five fingers foreshadowed—the scattering of her remaining sisters soon after the oldest's wedding. That her family disintegrated before Dol turned six makes much of what she feels "ghost pain," "miss[ing] what [she] never had," and ultimately she's propelled by her desire to collect the people she has lost—particularly to reattach to her sisters, who are as "slippery as a set of new cards." She wants to share their histories and secrets, to be at last included in the family.

Trezza Azzopardi's characters are so sharply drawn that they bite, and her details, evoking muddy back yards, stained sheets, rubbish-strewn streets, and scuzzy cafés, are strangely lovely. What makes this novel brilliant, though, is its tone. Despite the misery they express, the sentences, written in quick-paced present tense, lilt and caper. Dol's voice and sensibility match those of the third-person narrator, who slips in and out of this rich and complexly structured novel to reveal events that the little girl could not have



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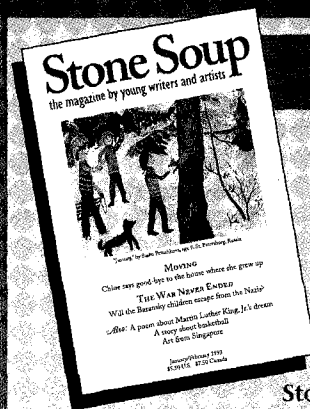
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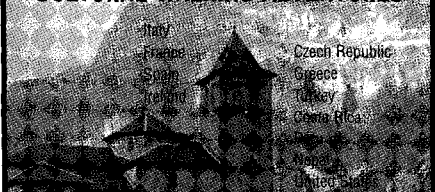
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seen. Both note the most minute images, such as the scum on the surface of a cup of tea, and Dol is entirely without self-pity, just as the third-person narrator is without pathos. Near the end of the novel Dol's adult awareness of her sorrow and resentment slightly tarnish the brightness of her straightforward tone. Remarkably, here for the first time the dark surroundings feel oppressive.

"Someone must be to blame." But throughout this dazzling novel Dol recognizes that it's difficult to say precisely who. Azzopardi allows Dol to construct an order with herself at the center, but both the novelist and the character understand that "as with all truth, there is another version."

—Christina Schwarz

The Constant Gardener

by John le Carré.

Scribner, 480 pages, \$28.00.

Yes, John le Carré is a "master storyteller" (*Time*), but so is Tom Clancy. Le Carré's storytelling is in the service of a tragic moral vision. "Today one must think like a hero to behave like a merely decent human being," says Barley Blair, the sodden spy-for-love in *The Russia House* (1989), voicing Le Carré's bleak take on our time. Love is the only country to which Le Carré's characters are fully loyal, and their heroism often consists in dying for it.

Love's agent in this stylish and resonant literary entertainment is Justin Quayle, a Foreign Office mediocrity keeping a stiff upper lip in the British embassy in a Kenya rife with corruption and suffering. Like Jonathan Pine, the hero of Le Carré's *The Night Manager* (1993), Quayle is shaken out of his moral inertia by a courageous woman: his wife, Tessa, an idealistic young lawyer, who is brutally killed while investigating a giant "pharma" that is testing drugs with lethal side effects on unknowing Africans. Justin was unaware of Tessa's campaign ("We all betrayed her," one character says to him. "How about you, sitting on your arse and growing flowers while she was out there being a saint?"). But now, shedding his Etonian diffidence, he arms himself with her knowledge. How he discovers and wields it is the efficiently discharged burden of the plot. The author's dramatic gifts, his irony, and his humanity are all in evidence. Le Carré in-

ventories the things one character thinks worth fighting for: "Truth, tolerance, justice, a sense of life's beauty, and a near-violent rejection of their opposites" and "above all, a . . . belief . . . that the system itself must be forced to reflect these virtues, or it had no business to exist." Playing that sentence back and listening for echoes of the whole of his work since *The Spy Who Came In From the Cold* (1963) makes clear that it is Le Carré's own credo.

Globalization in its uglier aspects—the international arms trade in *The Night Manager*, international finance in *Single and Single* (1999), multinational corporations exploiting the Third World in *The Constant Gardener*—has replaced the Cold War as the moral backdrop in Le Carré's work. His Cold War novels did not spare the conscience even of citizens on the "right" side, confronting them with crimes committed in their name, and the globalization novels do not spare the stockholder.

—Jack Beatty

Pinochet and Me

by Marc Cooper.

Verso, 157 pages, \$22.00.

Impeaching Richard Nixon for Watergate, Noam Chomsky said at the time, was like indicting Al Capone for tax evasion. Chomsky had in mind episodes like the 1973 CIA-nurtured overthrow of the legally elected government of Chile, which resulted in the murder of nearly 4,000 Chileans and the torture of many more. After the Chileans elected the socialist Salvador Allende President, in 1970, Nixon slammed his fist on the table at a White House meeting and ordered his CIA director to make the Chilean economy "scream." Allende, representing Chile's *rotos*, the "broken ones" in the shantytowns ringing its cities, had dared to nationalize American mining and communications (IT&T) interests. The poor would get only repression from the fascist general Augusto Pinochet, who led the treasonous coup against Allende that ended 150 years of Chilean democracy. Marc Cooper, a contributing editor of *The Nation*, served as Allende's translator, and this "personal journal" is commendably less about him—though it chronicles his escape from Santiago—than about the suffering and redemption of a people, and about a great power's murderous meddling in a small country.

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as he strummed his first chord. The thirty or so others on the packed bus listened quietly as they stared ahead or out of the window. But when he finished, almost everyone put coins in his cup.

—Jack Beatty

Bright Young Things

by Brooke de Ocampo, with
photographs by Jonathan Becker.
Assouline, 192 pages, \$50.00.

Bright Young Things—which *Vanity Fair* declared last fall's "It" book—will set you back fifty dollars. Here's what you get: a compendium of photographs featuring rich, youngish New Yorkers smirking at you from the hectic confines of their overdecorated apartments, not to mention (no extra charge!) the prose. We learn in William Norwich's worshipful introduction, which sets the tone for what is to come, that the Bright Young Things are "social sailors, negotiating modern gods and sirens in an odyssey of personal style on the treasured island of Manhattan."

They have also inherited a lot of scratch. Although some of the BYTs have ventured into the salt mines (among them Andrew Jareki, the inventor of Moviefone), most are the children of aging jet setters and have acquired their wealth by less taxing means: Marina Rust and Mathias Guerrand-Hermès, for example, are, respectively, heirs to the Marshall Field department-store and Hermès leather-goods fortunes. No matter what the origin of the money, the most efficient way to glamourize it, apparently, is to exchange wads of it for New York real estate—but not some seven-figure duplex that any dolt with a bankroll would have the good sense to acquire. Much better to transform a "dump" into a Soho pleasure dome and then bask in the compliments. After closing escrow, the BYT shudders and sets to work, cramming in big-ticket paintings, huddling with a decorator, and heading off to the flea market (which turns out to be a marvelous sort of bazaar where rich people can snap up the fun, crazy stuff that poor people don't have the sense to keep) for all-important Bohemian overtones.

The profiles accompanying the photographs showcase the lineage of the BYTs, their superior educations, and their glamorous jobs: one is a landscape designer, another is an "aesthetic consul-

tant," and even the money guys manage to suggest that they're in it just for the thrill. A substantial number (including De Ocampo herself, a former associate editor at *Vogue*) have been affiliated with New York fashion magazines. There was a time when the young people doing tours of duty at these institutions included the likes of Joan Didion and Sylvia Plath; one wonders how two young ladies of such humble origins would fare there today.

Clearly, De Ocampo did not intend to make her cherished BYTs look silly, but she has a positive knack for it, whether she's reminding us of the exacting nature of fashion-forward decorating ("Ferd was adamant about having a sofa with just one seat cushion. No subdivision") or describing the "ordeal" of finding decent living space in New York ("We had to fly over from London to interview for it. And it's just a rental!"). *Bright Young Things* is selling briskly, and unless this means simply that the featured players are stockpiling copies in their butler's pantries, we may deduce that interest in the lives of hugely moneyed New Yorkers, benefiting from a nudge by Candace Bushnell, continues to grow.

—Caitlin Flanagan

Miss Garnet's Angel

by Salley Vickers.

Carroll and Graf, 352 pages, \$25.00.

At its heart this superbly crafted novel is an anti-romance. Miss Julia Garnet, a retired schoolteacher, "confound[s] intimacy" like the reticent, astringent, and wry women who people Barbara Pym's or Anita Brookner's novels. She is "thrust . . . into new ways" when her friend Harriet, "the only person she ever ate with," dies. Yes, her transformation begins when she travels from England to Venice. And yes, that city so works its charms that she eventually blossoms enough to buy a lilac dress and even silk underwear—if not enough to wear the ensemble to its intended occasion. As Salley Vickers finely observes the subtle and often painful dawning of Miss Garnet's self-awareness, she uses such conventions, including even an angel, not to delineate the course of a traditional love affair (the object of Miss Garnet's affections turns out to be unsuitable in the Austen tradition with a very modern twist) but as a backdrop to Miss Garnet's yet more profound awakening to friendship and artistic

beauty and unguarded emotion. She wins not a man but herself. Cleverly weaving her graceful rendition of "The Book of Tobit," from the Apocrypha, through the main narrative, Vickers gives Miss Garnet's revelations a weighty universality and timelessness. Although she is as clear-eyed and unsparing as Pym and Brookner when assessing her characters' limitations, Vickers's vision of human possibility is colored by hope.

—Christina Schwarz

More Than They Promised: The Studebaker Story

by Thomas E. Bonsall.

Stanford University, 492 pages, \$45.00.

To mark its centenary, in 1952, the Studebaker company put out a booklet, *100 Years on the Road*, the cover of which depicts a graveled suburban driveway with Studebakers from three eras lined up in historic array—a covered wagon, a 1920s touring car, and a sleek European-looking hardtop designed by the famed Raymond Loewy. This cavalcade of progress heads out of the frame as if into a future worthy of the company's past. Alas, there was a cliff at the edge of that frame, and within months Studebaker would fall over it. Already weakened by formidable competition from the Big Three, a shaky dealer system, and low productivity, Studebaker was caught in 1953 in a "mushrooming nightmare" of production bottlenecks, which cost it tens of thousands of sales of its popular coupe (in 1954 it sold 40 percent fewer cars than in 1953) and resulted in bad styling and engineering choices for its sedans. That year also saw Studebaker's executives decline an opportunity to take over Volkswagen, which was selling barely 1,000 vehicles a year in the United States, reject sports-car and compact-car designs offered to it by Porsche, and decide to buy Packard—Packard!—instead. By 1960 Volkswagen was selling more than 100,000 cars a year to a market that couldn't get enough of them, and the Packard was a museum piece. Not since Thomas Watson Sr., of IBM, declined to buy the process that became incorporated as Xerox had major-company executives made a worse decision than rejecting Volkswagen—a decision rivaled a few years later when the same boobies passed up a chance to become the American distributors for Toyota.

Staggering into the 1960s, Studebaker had a brief success with the first American compact, the Lark—which, in a whimsical nod to the company's days as America's premier wagon-and-carriage maker, sponsored *Mr. Ed*. Then, in 1963, one year before the Ford Mustang appeared, Studebaker introduced the country's first "personal" sports car, Loewy's climactic achievement, the enduringly handsome Avanti, which, equipped with a roll bar and disc brakes, leaped ahead of its day in safety engineering. But the Avanti was not an immediate hit with a public that didn't yet know it wanted the Mustang, and Studebaker lacked the financial strength to give the Avanti time. The company produced its last car in 1966.

One keeps wanting *More Than They Promised* to be a cultural history, but it stubbornly remains part business history, part car buff's book. In the end it gains dimension as—to quote Raymond Loewy on Studebaker's decision to declare bankruptcy just as the Avanti was finally catching on—"an industrial tragedy."

—Jack Beatty

Readings: Essays and Literary Entertainments

by Michael Dirda.

Indiana University, 232 pages, \$24.95.

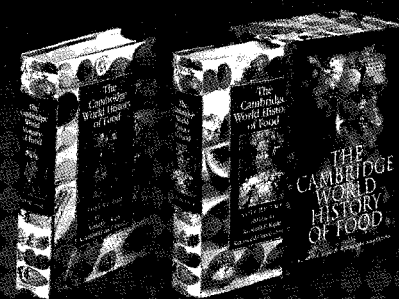
In these brief essays Michael Dirda, a columnist for the *Washington Post Book World*, writes about his passionate entanglement with books—as a voracious and wide-ranging reader, as a proselytizer who is almost childlike in his enthusiasms, as an obsessive hunter frequenting used-book shops and library sales, and as a generous, subtle critic. Echoing Randall Jarrell, one of his heroes, Dirda laments the shrinking of the common store of knowledge possessed by "well educated" readers, and he clearly sees his mission as one of enticing as many as he can to read—and love—the literary classics and serious works of history and biography. His obvious relish of books allows him to exhort without sounding self-important and without making reading difficult works seem like taking medicine. Dirda's greatest service, though, is leading his readers to unjustly neglected or forgotten titles: only a critic magnificently unconcerned with the intellectually and academically fashionable would (twice!) recommend to *Post* readers G. M. Young's

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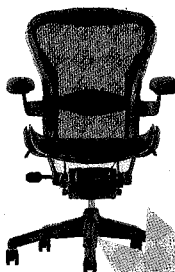
— Jared Diamond,
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long-out-of-print book-length essay *Victorian England: Portrait of an Age*, a masterpiece of literature as much as of history. Equally unusual is Dirda's preference for wit and style over "issues"—hence his relentless championing of A. P. Herbert, P. G. Wodehouse, E. F. Benson (he perfectly captures the saccharine malice of Benson's characters), Ronald Firbank, Evelyn Waugh, and Cyril Connolly. Despite his near-rabid bibliophilia, in writers—and other matters—Dirda prizes wryness and detachment rather than zeal: "Clarity is as much a mental and emotional virtue as it is a stylistic one." Collections of previously published short pieces hardly ever work as books. This one does, thanks to Dirda's earnestness and charming old-fashionedness.

—Benjamin Schwarz

He's Not All That: How to Attract the Good Guys

by Dr. Gilda Carle.

Cliff Street Books/HarperCollins,
304 pages, \$20.00.

It is not uncommon for a snappy on-air personality to write a very dull book, and Gilda Carle, "TV's #1 talk-show therapist," has done so. That's unfortunate, because the subject of *He's Not All That!*—how teenage girls can form satisfying relationships with reliable boys—is an important one, and many of Carle's thoughts on the topic, when they can be glimpsed through the murk of statistics, personality quizzes, and multiple digressions, are sound. Essentially, Carle thinks that girls should focus on self-improvement, be true to one another, and not settle for boys who mistreat them.

There's no arguing with these sentiments, but the way Carle puts them across is numbing. She has evidently interviewed a large number of girls about their romantic entanglements, and she repeats their endless, addled tales with the dogged thoroughness of an anthropologist reporting on a previously unexamined tribe. The book gives the impression of having been slapped together in some haste: one of the many "Gilda-Grams"—"feel-good statements that you can repeat and write down when you're bummed or when you want a boost"—sprinkled throughout the text consists of the cheery reminder that "one quarter of all teenage girls experience dating violence." But the real problem with

the book is Carle's attitude toward teenage boys. A more suitable title for *He's Not All That!* would be *He's Probably a Real Creep!* or, possibly, *Look Out, He's Armed!* The word "Columbine" appears several times in the book, a kind of depth charge reminding girls how bad boys can be, and the hateful chapter called "Understand Guys" informs readers that teenage boys are "encouraged to be hunters who use weapons." When they aren't taking a bead on their classmates, boys "pressure girls for sex, they burp, fart, act loud, and behave as Neanderthals." In Carle's world, it seems, a few lucky girls may snag the "good guys" referred to in the title, but for everybody else it's prom night of the damned.

—Caitlin Flanagan

The Pilgrim Hawk: A Love Story

by Glenway Wescott.

New York Review Books,
128 pages, \$12.95.

First published in 1940 and now reprinted, this rueful novella muses with striking insight on the value and torments of love. Throughout an unsettling afternoon in a French village in the late 1920s—when "it was not unusual to meet foreigners in some country as foreign to them as to you"—the American narrator, disappointed in his own relationships, explores the ambivalent nature of attachment as he studies an emotional Irish couple battling over a pet falcon. In "the long course of true love, especially marriage," he observes, "... insult arises again and again and again; and pain has to be not only endured, but consented to; and the amount of forgiveness that it necessitates is incredible and exhausting." Wescott brilliantly uses the falcon, "the all-embracing symbolic bird," as a metaphor for a remarkable range of human attitudes. His capture of the abstract is masterly, but, as befits a meditation on love, in the end the book is satisfyingly inconclusive.

—Christina Schwarz

Recent books by Atlantic authors:

Dangerous Games: Ice Climbing, Storm Kayaking, and Other Adventures from the Extreme Edge of Sports by Andrew Todhunter. Doubleday, 178 pages, \$23.95. Many of the pieces in this book first appeared in *The Atlantic*.



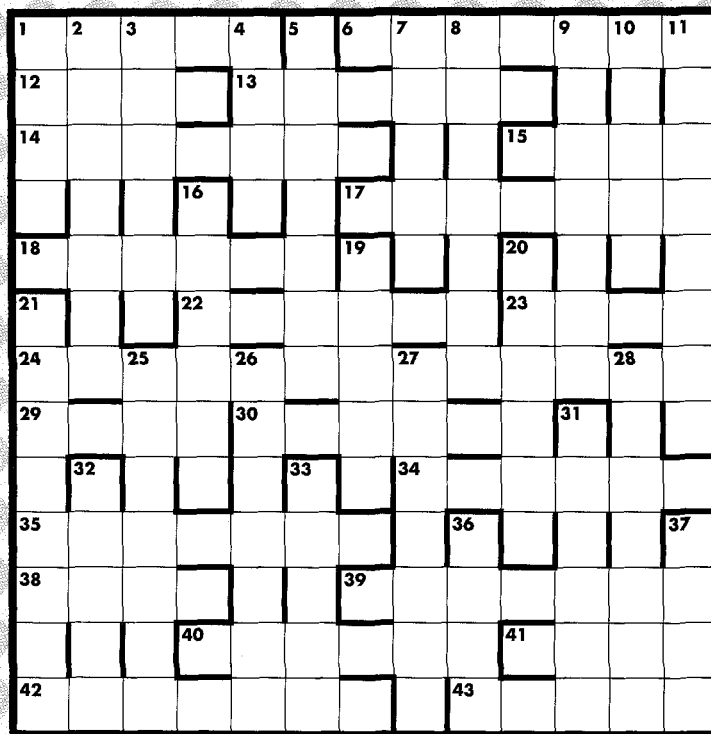
THE PUZZLER

by Emily Cox and Henry Rathvon

Resolution

Solvers endeavoring to keep the unclued resolution at 24 Across will need to treat some of the answers to this puzzle's clues accordingly before entering them in the grid. The outcome of the resolution may be determined upon completion of the puzzle. Answer lengths, which are not shown, may differ from the lengths of the corresponding grid entries. Five clue answers are capitalized.

The solution to last month's Puzzler appears on page 87.



Across

1. Bit of offering in cash resolved confusion
6. Mail-order merchant behind that female item in a pod (*two words*)
12. Warning about bishop and prince
13. Retracted question about one Mediterranean island link?
14. Fellow adopting boy's name given name for a girl
15. Insufficient material for a showy outfit
17. Stung, exits the streetcar from the rear?
18. Good general in African land
22. Empty, nested containers
23. Opening sound overheard
29. Losing the foremost champion's love
30. Direct old Broadway hit about island
34. Misconstrued nail to be something to sit on
35. Turning orb: Atlas's burden to bear
38. Instrument is wretchedly bad to some ears

39. Coming into view, river rodent with jagged teeth
40. Withhold rum itself
41. Little bit of power coming from speakers
42. Got rid of load at last, and felt a tingling sensation
43. Weary, even assuming resistance

Down

1. British river past group of cabins
2. Stop the guy with a thumbs-down (*two words*)
3. Downright cunning about cost
4. Horse with swayback carrying king
5. Intended holding number back
7. After the start, *Evil Eye* is melodramatic
8. Grass snarled seaport
9. Free finally, animal in *Born Free* bounding toward Joy
10. White Russian's last, after derelict put in bar order
11. Superfluous goads by head of state
16. Strip joints, before end of night
19. Interdiction, among others, in Latin country
20. Dwelling within, wrong one confined (*hyphenated*)
21. How do you like that show with Democratic rowdy? (*hyphenated*)
25. Put in order for dark beer, getting otherwise (*two words*)
26. Besides taking two lefts, hit truck stop?
27. Slept fitfully, comprehending about birds
28. Color communications medium for the audience in eating area
31. In space station, I see a woolly material
32. Country chart-topper about a first person, singular
33. Strangely bestial flowering plant
36. Stew's musical bar
37. Charge five hundred for meal

Note: The instructions above are for this month's puzzle only. It is assumed that you know how to decipher clues. For a complete introduction to clue-solving, send an addressed, stamped long envelope to The Atlantic Puzzler, 77 North Washington Street, Boston, Mass. 02114.

WORD COURT

by Barbara Wallraff

A recent issue of The New York Times included the following passage: "Critics wonder whether the new digital film revolution for home computers merely gilds the lily of passive entertainment." I had thought the correct expression to be "To gild refined gold, to paint the lily." Has common usage changed this quotation so that gild the lily is now the accepted version?

Johanna Bass
San Antonio, Texas

Gild the lily is seen in print much more commonly than *paint the lily*, and where the latter does appear, often it will have been invoked just in order to let readers know that the original line is as you say and comes from Shakespeare—*King John*, to be exact. If not that, then the writer may quote the entire line and work in a mention of the Bard, thus self-consciously averting questions about word choice.

Gild versus *paint* therefore presents anyone who wants to use a version of the phrase with a dilemma, in the traditional sense of that word (namely, as the *American Heritage Dictionary* has it, "a situation that requires a choice between options that are or seem equally unfavorable or mutually exclusive"). The problem was wonderfully sketched by the poet and critic Randall Jarrell, in a passage I discovered when the linguist Geoffrey Nunberg quoted it in his article "The Decline of Grammar," published in *The Atlantic* seventeen years ago. Jarrell, describing a literary character, wrote, "She always said to *paint the lily*: she knew that this was a commonplace phrase and that the memory of mankind had transfigured it, and she was contemptuous of people who said to *paint the lily*—just as she was contemptuous, in a different way, of people who said to *gild the lily*—but



she couldn't bear to have anyone think that she didn't know which one it really was." My own, cowardly solution to the dilemma is a third possibility not touched on by Jarrell (despite the Greek

prefix meaning "two," a majority of the AHD's usage panel permits a dilemma to have three or more possible solutions): I avoid using either version of the phrase.

A friend of ours was chastised by another friend while dining at a restaurant. Friend A had ordered her steak rare. Upon receiving it, she was disappointed and said she had wanted it rarer. Friend B (aka The Critic) stated that that usage was incorrect—that A should have said she wanted it more rare, and that rarer was okay for comparing near-extinct species, perfect diamonds, and the like, but not for the relative doneness of cooked meat.

Dictionaries we have consulted do not specifically deal with this issue, a fact that (along with our instincts) leads us to believe that A's usage was just dandy and B was being altogether too picky. Please advise.

Barbara Levie and Nancy Engel
Evanston, Ill.

You're right. In fact, it's considered better English to "inflect" (that is, modify the word itself) any adjective that has an established comparative form: *rarer* is more elegant than *more rare*. Note, however, that inventing new inflected comparatives is

not good English. Although here grammar parts company with gastroenterology, grammar forbids A to request a portion of meat that is *doner*.

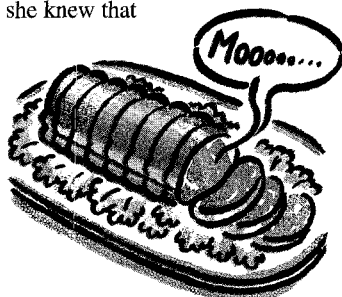
May I ask for clarification on the pronunciation of the term short-lived—specifically the latter part: -lived. It seems to be most often pronounced with a short i, as in "Once, I lived in New York." I am more comfortable with the long i, as in "Live! from New York!" Webster's New College Dictionary allows for both pronunciations. Why is it not simply spelled short-lived and pronounced thus: "My vacation in New York was short-lived, because I was knifed in the back?" Friends and acquaintances—even my wife—seem compelled to correct me. Which of us is right?

B. P. Fitzsimmons
Darien, Conn.

The word is etymologically nearer to the noun *life* than to the participle *lived*, and people who know that tend to pronounce it as you do, with the long i. So why isn't it *short-lived*? If it had been coined yesterday,

it probably would be. Time was, though, when the boundaries between v (or u) and f were more fluid than they are today. For instance, an antique form of your verb *knife* is *knive*, and a verb *wive* has existed for well over a millennium. As for *short-lived*, 400 or so years ago it tended to appear as *short liu'd*. But the basic term has been in use that long—since the days of Shakespeare and Ben Jonson. Hence, incidentally, it has far outlasted its ability to describe itself.

Have you recently had a language dispute that you would like this column to resolve? Write to Word Court in care of *The Atlantic Monthly*, 77 North Washington Street, Boston, MA 02114, or send e-mail to MsGrammar@theatlantic.com. All letters become the property of Word Court.



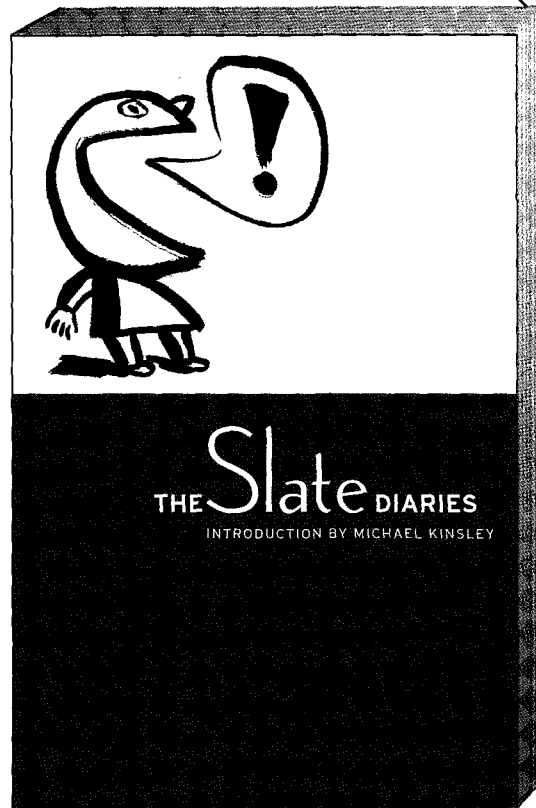
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